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Department of  
Agriculture

Forest  
Service

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# Environmental Assessment

## East Branch Tionesta Creek

**Marienville Ranger District, Allegheny National Forest**

Elk and McKean Counties, Pennsylvania



*Red maple tree covered in thick layer of moss in the project area, photo taken by Ralph Swanson, Resource Administrator*

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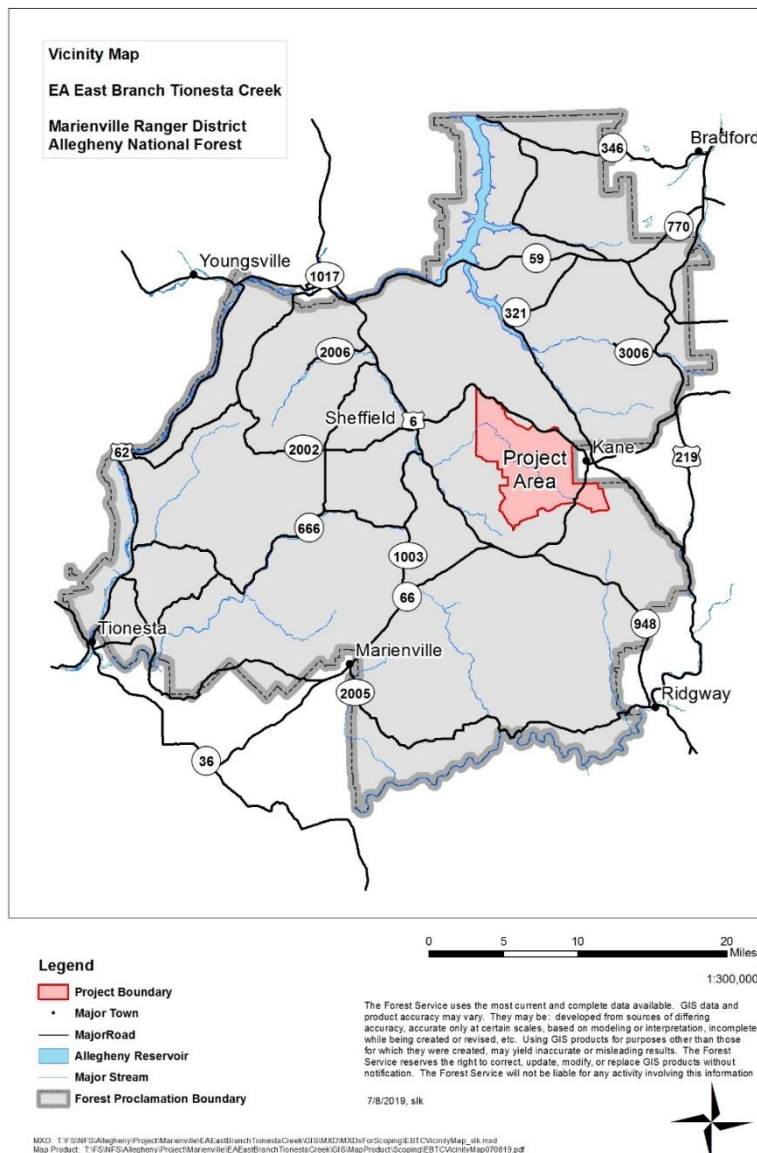
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## INTRODUCTION

The Forest Service, U. S. Department of Agriculture, Allegheny National Forest, Marienville Ranger District, is proposing vegetation management, reforestation treatments, non-native invasive plant treatments, watershed improvements, recreation improvements, and travel management activities in Hamilton and Wetmore Townships, McKean County, and Highland and Jones Townships, Elk County, Pennsylvania. The East Branch Tionesta Creek project area lies west of Kane, Pennsylvania and within the East Branch Tionesta Creek and South Branch Tionesta Creek watersheds. The project area consists of approximately 15,795 acres of National Forest System lands with approximately 1,045 acres in Management Area 2.1 (Uneven-aged Management), 2,142 acres in Management Area 2.2 (Late Structural Linkages) and 12,608 in Management Area 3.0 (Even-aged Management) (see vicinity map below and map 1: existing condition).



## NEED FOR ACTION

### Vegetation Management for Early Structural Habitat

We are falling short of our objective to provide diverse wildlife habitat on the Allegheny National Forest. We would like to maintain early structural habitat<sup>1</sup> on 8 percent of the forest, with that number increasing to 10 percent by 2060.<sup>2</sup> As of January 2020, we only have an estimated 3.1 percent of early structural habitat across the entire forest. It may be possible to achieve this objective in the short-term by implementing all our recently approved and proposed vegetation management activities. However, it can take more than a decade to fully implement a decision, and trees are continuously growing out of the early structural habitat age class. As a result, we need to approve new activities to help overcome our current deficit and compensate for trees that will age into mid-structural habitat over time. If we do not, the forest will continue to grow older and wildlife habitat diversity will decline.

### Vegetation Management for Forest Health

The number of healthy seed trees is declining due to a combination of forest health challenges. Forty-four (44) percent relative density is the minimum density of overstory tree stocking of that is considered to be fully occupying a site's available growing space. Stocking levels in many stands within the project area are on a negative trend. This makes it increasingly difficult to maintain and regenerate stands comprised of desirable species. If we don't act now to sustain healthy and well stocked stands while adequate seed trees remain, the forest will become increasingly difficult to regenerate and vulnerable to damage from windthrow, storms, and other injury to tree crowns.

Forest health challenges within the project area include, but are not limited to, the following:

- **Beech bark disease** results in the death of mature American beech stems. A dense thicket of beech sprouts, or beech brush, is produced from the root stocks of the original tree. This prevents the establishment of other tree seedlings and results in a virtual monoculture that lacks the benefits of natural forest biodiversity and is still susceptible to beech bark disease.
- **Emerald ash borer** has already killed most of the ash trees within the project area.
- **Hemlock woolly adelgid** is expected to cause high mortality levels to eastern hemlock in the coming decade.
- **Black cherry crown health** has been declining in many areas for reasons that are not entirely clear.<sup>3</sup> The percentage of standing dead black cherry on selected plots increased to 22 percent in recent years,<sup>4</sup> and in some areas may exceed 30 percent.<sup>5</sup>

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<sup>1</sup> Early structural habitat is defined as "Seedling and sapling communities or forested stands normally less than 20 years old where the dominant canopy layer is less than 5 inches in diameter(dbh). Savannahs or open areas with encroaching woody vegetation where tree cover or canopy closure is less than 40 percent are also considered to be early structural habitat."

<sup>2</sup> Provide a diversity of age and structural classes across the ANF landscape, including early structural, late structural and multi-age forested conditions, to achieve desired future conditions (USDA-FS 2007a, page 19).

<sup>3</sup> We think it is linked to several factors including insect defoliations, other canopy disturbances such as wind events, changing soil nutrient status, and potentially changing climate and weather patterns.

<sup>4</sup> Long and others, personal communication 2015 unpublished; Pennsylvania Bureau of Forestry 2015 unpublished.

Cherry scallop shell moth is a defoliator of black cherry, and we have experienced five years of an outbreak. It causes substantial damage to black cherry trees and often mortality, especially when combined with other stressors. Diminishing black cherry health has also led to poor seed crops, low seed viability, and poor seedling survival rate.

- **Interference from non-native invasive plant species** is also a threat to forest health and native plant communities.

### **Reforestation to Support Desirable Tree Species**

We rely on natural seedling development to regenerate stands to desirable tree species. These desirable seedlings are outcompeted by interfering vegetation due to decades of selective deer browsing. They will not develop in sufficient quantities to establish a new stand of trees unless we take action to reduce interfering understory vegetation. Deferring action would likely increase the difficulty of successfully restocking these stands with diverse tree seedlings that would help ensure a more resilient forest in the future.

### **Improving Wildlife Habitat**

Non-native insects and disease, natural disturbances, and selective deer browsing are causing changes to the diversity of native trees and shrubs. We are particularly concerned with the potential loss of conifer cover due to the decline of eastern hemlock. Management action is needed to provide new conifer cover should hemlock decline in the future and to enhance wildlife habitat throughout the project area.

### **Increasing Native Plant Species**

Non-native invasive plant species are becoming established in the project area. These non-native invasive plant species are crowding out native plants and affecting wildlife habitat. Action is needed to reduce and limit the spread of non-native plant species, with the hope of maintaining and re-establishing native plants. If we don't take action, non-native plant infestations will continue to persist and spread.

### **Improving Stream Habitat**

Many streams in the project area lack habitat diversity.

- Pools and slow water habitat are present, but lack cover and pools are generally shallow.
- Streams lack enough large wood to establish quality pools, slow flood flows, or store sediment and organic debris.
- Many streams lack adequate vegetation to provide shade and a supply of large wood in the future.

Also, where Forest System roads must cross streams or are located within 300 feet of streams or wetlands, sediment may be introduced to streams and there may be a barrier to the passage of aquatic organisms, thus reducing aquatic habitat quality and connectivity.

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<sup>5</sup> Pennsylvania Bureau of Forestry 2015 unpublished.



Combined, these factors impair aquatic habitat and recreational experiences for anglers.

### **Improving Soil Conditions and Water Quality**

Dispersed campsites are often located near water and usually along open forest roads. These sites are frequently occupied from the beginning of trout season in the spring through hunting season in the late fall. This continual use can result in loss of vegetation, compaction of soil, loss of woody debris from collecting firewood, and littering. There is a need to improve some dispersed campsites to mitigate the impacts to soils and water quality and to establish a more sustainable dispersed camping experience.

Approximately 1.4 miles of roads in the area are no longer needed. Decommissioning these roads would reduce potential soil erosion and restore aquatic and terrestrial habitat.

Acid rain occurs in the project area and negatively impacts the water quality of streams that lack buffering capacity.

### **Transportation Management**

Many treatment units within the project area are not accessible from National Forest System roads or are only accessible from roads that need maintenance to support timber hauling.

Some Forest System roads are in historic locations that failed to consider unstable soils or impacts to water quality or relied on frozen conditions for access that can no longer be relied on today. In some case, we have identified the need to decommission roads that are no longer needed. In other cases, we have identified the need to realign roads to locations with more stable soils, less impact to water quality or unique habitat, or lower long-term maintenance costs. Often, a new location results in all three outcomes.

Another factor that increases maintenance costs and resource impact is the illegal use by ATVs and off-highway vehicles by the public on Forest System roads. This illegal use has even greater resource impact when it occurs across the general landscape, but the impact on Forest System roads has a direct correlation to the increased cost of road maintenance, particularly on roads closed to the public. There is another added cost to road maintenance when closed roads are opened for hunter access during the fall and early winter. This cost is often offset by the benefit to forest regeneration from increased hunting pressure on deer.

Where Forest System roads must cross streams or are located within 300 feet of streams or wetlands, we propose road maintenance that reduces impacts to water quality. This includes replacing in-stream culverts that are constricting flow or restricting aquatic organism passage with structures that provide for non-constricted bank full water flow and utilize or mimic the stream bed to allow aquatic organism passage. These are typically open-bottom culverts or embedded arch culverts.

## **PROPOSED ACTION**

The proposed action was developed by the interdisciplinary team and responsible official to respond to the purpose and need. It is summarized below in table 1, with additional information provided in appendix A (description of treatment methods and list of treatments by stand) and shown on maps 2 through 7.

Several changes to the proposed action have been made since scoping occurred.

- Stand 821025 has been dropped from the proposed action due to resource concerns. This resulted in proposed single tree selection harvests being reduced from 342 acres in scoping to 311 acres as shown in table 1.
- Reductions were also made to associated reforestation treatments for stand 821025 in table 1. The 69 acres listed in summary of proposed activities table in the scoping proposal was dropped from table 1 below because during the second harvest entry, proposed group selection harvests would occur within the 311 acres that are proposed to receive single tree selection harvest during the first harvest entry.

**Table 1: Summary of proposed activities**

<b>Even-aged Vegetation Management (acres)</b>	
Commercial thinning	43
Shelterwood seed cut (1 <sup>st</sup> entry)/shelterwood removal cut (2 <sup>nd</sup> entry)	2,550
Shelterwood prep cut (1 <sup>st</sup> entry)/shelterwood seed cut (2 <sup>nd</sup> entry)/shelterwood removal cut (3 <sup>rd</sup> entry)	9
Overstory removal cut	335
<b>Two-aged Vegetation Management (acres)</b>	
Two-aged shelterwood seed cut (1 <sup>st</sup> entry)/Two-aged shelterwood removal cut (2 <sup>nd</sup> entry)	39/20
<b>Uneven-aged Vegetation Management (acres)</b>	
Single tree selection (1 <sup>st</sup> entry)/group selection (2 <sup>nd</sup> entry)	311
<b>Understory Vegetation Treatments (acres)</b>	
Herbicide–reforestation	3,304
Site preparation	2,981
Fertilization (optional)	835
Fence construction (optional)	2,023
Tree shelter installation	323
Tree planting for species diversity	339
Release for species diversity	3,191
Timber Stand Improvement	128
NNIP species treatments (herbicide and manual)	340
<b>Wildlife Management</b>	
Planting (acres)	45
Fencing (acres)	45
Structure installation (number)	9
Brush pile construction (number)	65
Rehabilitate wildlife openings (acres) includes 9 acres of prescribed burning to maintain warm season grasses	73
<b>Watershed Management (miles)</b>	
Large wood introductions (place in streams - up to 185 trees/mile)	46.2
<b>Travel Management (miles)</b>	
Road construction – new corridor	0.9
Road construction – existing corridor	2.8
Road realignment	1.3

Road maintenance	48
Road decommissioning	1.4
High quality (limestone) road surfacing and roadside ditch liming (within 300 feet of a stream)	19.6
Road management change from open to restricted (Forest roads 476)	0.3
Install new gates (Forest roads 325C, 467, 476, and 594A (spur road to Hoffman Farm) (number)	4
<b>Recreation Improvements (number)</b>	
Improve dispersed camping sites	9
<b>Temporary Openings Greater than 40 Acres in Size</b>	
Full project implementation would result in 16 treatment blocks that exceed 40 acres in size, ranging from 46 acres to 767 acres in size. Please see appendix A and map 6 for additional information.	

## ALTERNATIVES

In an environmental assessment, alternatives to the proposed action must be developed if there are unresolved conflicts concerning alternative uses of available resources.

No unresolved conflicts were identified during scoping or interdisciplinary review. As a result, this alternative discusses two options for moving forward: no action and proposed action.

### No action

Under the no action alternative, none of the proposed activities would be implemented. Activities previously approved in other NEPA decisions would still occur. A list of recent NEPA decisions within the project area is provided below, and the remaining activities to implement are summarized in table 2.

- East Side Final Environmental Impact Statement (2000)
- Eagle Wind Mills Salvage Environmental Assessment (2006)
- FY06 Regeneration Environmental Assessment (2006)
- Crop Tree Release 5 (2006)
- Apple Tree Prune and Release Categorical Exclusion (2009)
- Aspen Regeneration Categorical Exclusion (2013)
- Marienville Buckthorn Treatment (2016)
- Forest Road 195 Windthrow Salvage Categorical Exclusion (2018) (implementation ongoing as South Branch Salvage Sale [approximately 9 acres remaining to be cut with East Branch Tionesta Creek project area])

Routine road, trail, and other facility maintenance would occur as funding permits.

**Table 2—Management activities approved in previous NEPA decisions and still to be implemented**



Previously approved activities	
Shelterwood removal cuts (acres)	134
Salvage harvests (acres)	9
Herbicide for reforestation (acres)	43
Site preparation (acres)	33
Tree planting for species diversity (acres)	70
Fencing (acres)	70
Tree shelter installation (acres)	8
Release for species diversity (acres)	487
Planting/seeding for wildlife (acres)	34
Fencing for wildlife (acres)	22
Opening enhancement (acres)	9
Aspen regeneration (acres)	10
Apple tree pruning and release (acres)	19
Road realignment (FR126) (miles)	0.23
Glossy buckthorn treatment (acres) <sup>1</sup>	500 to 1000 annually <sup>2</sup>

<sup>1</sup> Dependent of funding and available resources.

<sup>2</sup> Across the Marienville Ranger District

### Alternatives considered but eliminated from detailed study

The interdisciplinary team and the responsible official considered the possibility of restricting temporary opening size to 40 acres or less and then revisiting the untreated areas in the future (after adjacent treated stands are restocked). This approach, however, is not viable since tree mortality would occur well before adjacent areas are restocked. It may take 10-15 years for treated stands to reach 15 feet tall. This gap between mortality and adjacent stand restocking, when combined with overstory decline and mortality from other factors would substantially jeopardize our ability to naturally regenerate stands. Active management in the future, moreover, could be further challenged if mortality reduces the economic value of timber to the point where sales are no longer commercially viable. Although economics is not a determinative factor in this case, it is worth mentioning since the forest largely relies on commercially viable timber sales to help achieve desired conditions.

We also considered the possibility of salvaging dead and dying trees in these stands. This approach, however, is not prudent since stand health would continue to decline. Without even-aged regeneration treatments and reforestation activities, stand stocking, tree species and understory diversity would continue to decline and our ability to naturally regenerate a younger cohort of diverse, hardwood species would be jeopardized. The result would be a two-aged community, consisting of a poorly stocked overstory and an understory dominated by undesirable vegetation. Although this approach may work in some instances, the chances of it being successful are uncertain and would vary substantially depending on site conditions.

Since restricting openings to 40 acres or less would have negative consequences that jeopardize stand health and regeneration ability and the alternative management approaches considered are either not viable or not prudent, we believe moving forward with openings

that exceed 40 acres is most likely to improve forest health and resilience. Further, the size of the opening is not the objective, it is a tool to reach the objective, which is regeneration of healthy, diverse forest stands. It is not our intent to generate openings up to 767 acres in size, but this may occur when the stand dynamics present us with diminishing opportunities for regeneration. With this project, we have strived to balance the regeneration of relatively healthy stands within our normal parameters of size and timing of treatments, with the regeneration of diminished stands within parameters that offer greater flexibility for size and timing of treatments.

## ENVIRONMENTAL EFFECTS

The purpose of an environmental assessment is to determine whether to make a finding of no significant impact or prepare an environmental impact statement. To help inform that decision, our analysis is presented in terms of context and intensity factor.

### Context

This project addresses a relatively limited portion of the landscape when viewed from local, regional, and national perspectives. It proposes treatments on approximately 4,000 acres<sup>6</sup>, which represents:

- 7.5 percent of lands within the South Branch Tionesta Creek 5<sup>th</sup> order watershed
- 0.4 percent of lands within McKean and Elk Counties
- 0.8 percent of land within the proclamation boundary of the Allegheny National Forest
- 0.002 percent of land administered by the U.S. Forest Service (nationwide) as part of the National Forest System

This project was designed to help achieve desired conditions identified in the Allegheny National Forest Land and Resource Management Plan (Forest Plan). It is located within management areas 2.1 (uneven-aged management),<sup>7</sup> 2.2 (late structural linkages),<sup>8</sup> and 3.0 (even-aged management).<sup>9</sup> All applicable standards and guidelines have been incorporated into the proposed action as well as project design features (see appendix B), and implementation will help us achieve the following goals and objectives:

- Develop and enhance the seedling, shrub, and herbaceous diversity to improve structural conditions (USDA-FS 2007a, pages. 14, 19, A-1, A-2, and A-14). Provide a

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<sup>6</sup> Please note that multiple treatments might occur on any given acre.

<sup>7</sup> **Management Area 2.1 – Uneven-aged Management** emphasizes uneven-aged management to provide mature structural stages and complex vertical structure. Vegetation management in this management area helps provide the “Big Woods” character. Management direction is provided on pages 106–108 of the Forest Plan.

<sup>8</sup> **Management Area 2.2 – Late Structural Linkages** emphasizes older, late structural forests that link relatively large areas of older forests (core areas) across the landscape. Vegetation management is directed to restoring late structural forest conditions with an emphasis on sustaining forest structure and forest continuity. Management Area direction is provided on pages 109–112 of the Forest Plan.

<sup>9</sup> **Management Area 3.0 – Even-aged Management** emphasizes even-aged management to provide a forest that is a mix of predominantly shade intolerant and mid-tolerant hardwood stands of various ages and associated understories and habitat for a diversity of plant and animal species. Management Area direction can be found on pages 113–115 of the Forest Plan.

- diversity of vegetation patterns across the landscape that represents well distributed habitats, a range of forest age classes and vegetative stages, a variety of healthy functioning vegetation layers, moderate to well-stocked forest cover, and the variety of vegetation species or forest types necessary to achieve multiple resource objectives and sustain ecosystem health (USDA-FS 2007a, page 14).
- Continue to implement and monitor a range of silvicultural and reforestation practices in order to be responsive to emerging issues and regenerate stands to a diversity of tree seedlings of good quality, form, and health (USDA-FS 2007a, page 14).
  - Improve the overall health and sustainability of Allegheny National Forest ecosystems by reducing understory dominance of native invasive species such as beech brush, ferns, grass and striped maple, and non-native invasive species on 3,000 to 6,200 acres annually. Do this through direct treatments: site preparation, herbicide application, scarification, mechanical treatment, or fencing to encourage greater species diversity with a wider variety of herbaceous and woody plants or tree seedlings (USDA-FS 2007a, page 21).
  - Provide a long-term, sustainable supply of large wood from riparian corridors to streams for aquatic habitat diversity; with an objective of 75 to 380 pieces per stream mile (USDA-FS 2007a, page 11).
  - Provide a safe, efficient and economical transportation system that is responsive to public and administrative needs, while having minimal adverse effects on the natural forest ecosystem (USDA-FS 2007a, page 16).
  - Limit the further introduction and spread of non-native invasive plants and conserve forest resources in a manner that presents the least hazard to humans and maintains and restores forest resources (USDA-FS 2007a, page 13).
  - Maintain or restore watersheds and their associated stream and groundwater processes, channel stability, riparian resources, and aquatic habitats to a functional condition (USDA-FS 2007a, page 14).
  - Provide a sustainable flow of commercial timber products that will contribute to the local and regional economy, contribute to the annual forest-wide allowable sale quantity, and maintain 10 to 12 percent of MA 3.0 in early structural habitat (0 to 20 years old) over time (USDA-FS 2007a, pages 8, 14, and 113).

**Intensity Factor #1: Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.**

Effects that are beneficial or adverse are discussed below, and additional information regarding potential effects resolved through project design may be found in appendix C.

### **Age Class Distribution**

The Forest Plan includes objectives for a mixture of early, mid, and late structural habitat across the Allegheny National Forest. The desired age class distribution is described on page 19 of the Forest Plan (USDA-FS 2007a), which is incorporated by reference. To determine how this project helps achieve those objectives, we look at how many acres of early structural habitat would be established in the project area after implementation is complete (for this

project, we expect implementation to be complete in 2039). The results of our analysis are summarized below in table 3.

**Table 3— Projected structural classes of vegetation on National Forest System lands within the project area**

Structural Condition <sup>1</sup>	Year					
	2019		2039			
	Existing Condition		No Action		Proposed Action	
	Acres	Percent	Acres	Percent	Acres	Percent
<b>Forest</b>						
Early structural	580	4	144 <sup>2</sup>	1	3,058 <sup>2</sup>	19
Mid structural	12,916	82	7,676	49	6,920	44
Late structural	2,005	13	7,681	49	5,523	35
<b>Total Forest</b>	15,501	98	15,501	98	15,501	98
<b>Non-Forest<sup>3</sup></b>	300	2	300	2	300	2

1. Structural classes are described in the Forest Plan Final Environmental Impact Statement (USDA-FS 2007b, page 6-24)

2. Includes vegetation management activities from previous NEPA decisions that have not been implemented.

3. Non-forested land may increase by 140 acres across all age classes as a result of future private oil and gas development.

Vegetation within the project area is relatively uniform in age, structure, and maturity. Approximately 82 percent of the forested land within the project consists of mid-structural habitat (21-110 years old), and 13 percent is late structural habitat (over 111 years old). The remainder, approximately 4 percent, is early structural habitat (0-20 years old).

The proposed action would establish a more balanced age class within the project area—establishing approximately 2,914 acres of early structural habitat over the next 20 years while decreasing current mid-structural habitat by 2,359 acres and late-structural habitat by 565 acres. This would offset the loss of 580 acres of early structural habitat that would occur as stands within the project area age and would help achieve our forest-wide objective for early structural habitat. To achieve forest-wide objectives for early structural habitat (8 to 10 percent of the forested landscape) the Forest needs to sustainably establish and maintain approximately 36,000 acres of early structural habitat, using even-aged regeneration methods. The proposed action would contribute approximately 7.8 percent of the early structural habitat needed. If no action is taken, stands currently in the 0-20 age class will grow out of the 0-20 age class and no longer be considered early structural habitat. This will make it increasingly difficult to achieve the forest-wide objective for early structural habitat and would require an increase in vegetation management elsewhere to compensate.

Regarding cumulative effects, fully implementing other approved NEPA decisions would establish an additional 144 acres of early structural habitat over the next 20 years. This would combine with the proposed action to establish a combined 7.8 percent of the early structural habitat needed to achieve and maintain the forest-wide objective. If the no action alternative is selected instead, it would combine with other approved activities to result in a net loss of 436 acres of early structural habitat as stands age over time. This loss would make it increasingly difficult to achieve the forest-wide objective for early structural habitat.

## Forest Health and Resilience

Many stands on the Allegheny National Forest are at or below 44 percent healthy relative density. This is concerning, since as healthy relative density falls, it becomes harder to regenerate these areas to healthy stands of desirable tree species. The effect of project implementation on these stands – and on forest health and resilience – is measured by how many acres of stands in decline are regenerated to increase stocking levels and sustain species diversity. The geographic boundary for our analysis is the project area, and we look at effects over a 20-year timeframe.

The proposed action will regenerate approximately 623 acres of forested stands that are currently at or below 44 percent healthy relative density. Other stands that are trending towards that number (or lower) are also proposed for regeneration. This will improve species and age class diversity, resilience, and vigor, and reduce the overall risk of catastrophic damage due to insects, diseases, and other natural events. Horizontal and vertical diversity of vegetation would be also enhanced across the project area.

If no action is taken, stands that are currently below or trending below 44 percent healthy relative density would continue to decline. They would become less diverse and stocked, and more susceptible to insects, disease, and other forest health challenges. Canopy gaps resulting from mortality would continue to occur in stands with a component of unhealthy overstory trees. Gaps would be patchy, filled by a multitude of species, including birch, along with undesired invasive species, striped maple, American beech, glossy buckthorn, grass and fern species. Where more American beech component is present in the overstory, the species composition of untreated areas would contain a heavy beech brush component- in some areas a virtual monoculture of perpetual beech brush. This condition would provide little ecological benefit in comparison to a species diverse, early structural environment with potential to develop and mature into middle- and late-structural conditions. In some areas, a red maple component may persist in the understory. The relative abundance of tree species would look very different than that of the current overstory. It would also become more difficult to successfully restock these stands with diverse tree seedlings in the future due to the continued loss of potential seed trees and the increase in competing undesirable vegetation.

Regenerating these areas now will provide the best opportunity for a new generation of healthy, well-stocked and diverse forest stands. Even-aged regeneration success on the Allegheny National Forest is quite good, with 93.5 percent of stands fully stocked within five years of the overstory removal (USDA-FS 2014, page 4). When regenerated areas that are nearly fully restocked are also considered, regeneration success is 98.5 percent (USDA-FS 2014, page 4).

If other recently approved projects are fully implemented, an additional 144 acres within the project area will be regenerated over the next 20 years. This would combine with the proposed action to increase the total number of acres regenerated. If the no action alternative is selected, only 144 acres approved in other NEPA decision would be regenerated.

## Threatened and Endangered Species

Please see the discussion provided below in context of intensity factor #9.

## Regional Forester Sensitive Species

Aquatics, botany and wildlife reports have been prepared for this project. They may be found in the project file and are incorporated by reference.

### Aquatic Species

If the proposed action is implemented, 23 regional forester sensitive aquatic species may experience adverse impacts to individuals, but implementation is not likely to result in a loss of viability in the Planning Area nor cause a trend toward federal listing.<sup>10</sup> While some of the impacts of proposed activities may have an adverse effect in individuals, these effects are expected to either be minimal and short-lived or outweighed by the longer term beneficial effects on aquatic species habitat.

If no action is taken, the same 23 aquatic species may experience adverse impacts to individuals due increased sedimentation and runoff from Forest System roads as they deteriorate, continued elevated levels of sedimentation and runoff from non-system roads that would not be brought into the system and maintained to Forest System road standards, and a longer time period (50 plus years) for large woody debris to repopulate streams resulting in a longer time period for improvements to overall aquatic habitat, but is not likely to result in a loss of viability in the Planning Area nor cause a trend toward federal listing. Additional information is available in the aquatics specialist report and is incorporated by reference.

### Plant Species

If the proposed action is implemented, all 36 regional forester sensitive plant species may experience adverse impacts to individuals, but implementation is not likely to result in a loss of viability in the Planning Area nor cause a trend toward federal listing<sup>11</sup>. If no action is taken, then no impacts to any sensitive species are anticipated. Additional information is available in the botany specialist report on pages 10 to 32 and is incorporated by reference.

### Wildlife Species

If the proposed action is implemented, 11 regional forester sensitive wildlife species may experience adverse impacts to individuals, but implementation is not likely to result in a loss of viability in the Planning Area nor cause a trend toward federal listing<sup>12</sup>. If no action is taken, then no impacts to any sensitive species are anticipated. Additional information is available in the wildlife specialist report on pages 47 to 56 and is incorporated by reference.

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<sup>10</sup> Burbot, creek heelsplitter, eastern hellbender, green-faced clubtail, harpoon clubtail, long-solid, Maine snaketail, mocha emerald, mountain brook lamprey, mountain madtom, mustached clubtail, , northern madtom, Ohio lamprey, rainbow, rapids clubtail, round pigtoe, sable clubtail, ski-tipped emerald, spotted darter, threeridge, wabash pigtoe, white heelsplitter, zebra clubtail

<sup>11</sup> American ginseng, Autumn coralroot, awned sedge, Bartram shadbush, blazing star/fairy wand, blue wild indigo, blunt-lobe grapefern, boreal bog sedge, boreal starwort, bristly black currant, butternut, Canada yew, checkered rattlesnake-plantain, creeping snowberry, crippled crane fly, false Indian plantain, great-spurred violet, Hooker's orchid, lanceleaf moonwort, large toothwort, least moonwort, lesser rattlesnake-plantain, mountain wood fern, Philadelphia panicgrass, queen-of-the-prairie, red baneberry, rough cotton-sedge, showy orchid, stalked bulrush, strict blue-eyed grass, swamp red currant, thread rush, tufted hairgrass, twining screwstem, white fawnlily, and wild quinine

<sup>12</sup> Eyed brown, four-toed salamander, little brown myotis, monarch butterfly, northern flying squirrel, northern gowhawk, Swainson's thrush, timber rattlesnake, tri-colored bat, West Virginia white, wood turtle



## Species with Viability Concerns

Botany and wildlife specialist reports have been prepared for this project to evaluate potential effects to species with viability concerns<sup>13</sup>. They may be found in the project file and are incorporated by reference.

All of our species with viability concerns have suitable habitat within the project area, and five (black-throated blue warbler, cerulean warbler, great blue heron, raven, and red-shouldered hawk) have been documented in the project area. If the proposed action is implemented, no adverse effects to these species are anticipated as Forest Plan standards and guidelines will be applied to protect species during implementation. Slight increases or decreases in potential habitat are expected, but adequate amounts of suitable habitat will remain.

## Non-Native Invasive Plant Infestations

Ten (10) non-native invasive plant species<sup>14</sup> have been documented in the project area and occupy approximately 340 acres of National Forest System lands. Additional infestations are likely to occur. The effect of the proposed action on these species is measured by determining (1) how many acres of land (or miles of road) would experience more favorable growing conditions for shade intolerant non-native invasive plants and (2) how many acres would be treated to reduce infestations. The project area represents the geographic boundary for our analysis, and we look at effects for approximately 5 to 15 years after implementation occurs.

### Proposed Action

Implementing the non-native invasive plant treatments would help to eliminate, reduce, or contain the spread of known infestations in the project area by applying manual, mechanical, and chemical treatments to 340 acres of infestations that are known or identified in the future. Due to the nature of non-native invasive plants, additional infestations and species from the Allegheny National Forest Invasive Plant Species of Concern list could be treated if found within the project area, consistent with applicable Forest Plan direction.

Vegetation management (timber harvesting) would temporarily increase the amount of light radiating to the forest floor on 3,318 acres within the project area. This would temporarily improve growing conditions for shade intolerant non-native invasive plants. The effect lasts approximately 5-15 years and subside as the canopy closes and native vegetation becomes established. It is addressed by applying herbicide to up to 3,658 acres, as needed, to reduce competing vegetation and address non-native invasive plant infestations.

Road construction, realignment, and maintenance may increase growing conditions for non-native invasive plants along roadways. New road construction may also introduce a new path for non-native invasive plants to access the forest interior. The risks are minor in context of this project, with 2.2 miles of new road construction/realignment and 2.8 miles of construction in existing road corridors proposed, and 48 miles of road maintenance. While new construction would create a long-term vector, the effects of increased light along roadways would subside as

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<sup>13</sup> Black-throated blue warbler, cerulean warbler, coal skink, eastern box turtle, golden-winged warbler, great blue heron, Henslow's sparrow, Jefferson salamander, osprey, raven, red-shouldered hawk

<sup>14</sup> Chinese privet, colt's foot, garlic mustard, glossy buckthorn, Japanese barberry, multiflora rose, professor-weed (goats-rue), spotted knapweed, Tartarian honeysuckle, and yellow sweetclover

the canopy closes (in approximately 5 to 15 years). The risk is reduced through several design features (see appendix B) and by our ability to treat new infestations as they are located.

If other approved projects are fully implemented, an additional 144 acres of vegetation management would likely occur, along with 0.23 miles of road work (realignment of forest road 126), and 76 acres of manual, mechanical, and herbicide treatments for reforestation. When combined with the proposed action, these activities would slightly – and temporarily – improve growing conditions for shade intolerant non-native invasive plants. However, the risk of further spreading infestations is low due to the application of project design features and our ability to treat new infestations as they are located.

### **No Action**

Under the no action alternative, proposed non-native invasive plant treatments would not occur. Existing non-native invasive plant infestations would persist, continue to spread, and potentially diminish or degrade native habitats and populations.

## **Soil and Water**

Soil productivity, erosion and sedimentation, and stream flow are briefly discussed below. Most potential effects to soil and water can be adequately resolved through project design, the application of project design features, and Forest Plan standards and guidelines. Please see appendices B and C and the Forest Plan (USDA-FS 2007a, pages 72–79) for more information.

### **Soil Productivity**

Transportation management would result in a small loss of soil productivity in some areas but provide benefits in others. The proposed action includes approximately 2.2 miles (9 acres) of new road construction and realignment that would result in long-term losses in soil productivity where soils are removed or buried. This would be offset by 1.4 miles (5.9 acres) of road decommissioning, which would help to restore soil productivity in those areas. If the no action alternative is selected, none of these activities proposed here – construction, realignment, and decommissioning – would occur. As a result, soil productivity would remain unchanged.

Regarding cumulative effects, one additional acre of soil disturbance may occur if forest road 126 is realigned as previously approved in the East Side decision. This disturbance, in turn, would be offset by road decommissioning included in the same decision.

### **Erosion and Sedimentation**

Under the proposed action, road maintenance may cause a short-term increase in erosion and sedimentation, but an overall reduction in the mid to long-term from the following activities:

- Road maintenance on existing roads (48 miles)
- Adding non-system roads to the National Forest System (2.8 miles)

The likelihood of short-term impacts would be reduced through project design features, Pennsylvania best management practices, and Forest Plan standards and guidelines. Selected design features are listed below, and additional information is provided in appendix B.

- Road maintenance would reduce sedimentation and runoff over the long term.

- Surface armoring (at stream crossings) shall be applied on planned timber haul routes prior to timber hauling.
- When permanent road crossings of perennial or intermittent streams are replaced, new, aquatic organism passage structures will be designed and implemented to maintain aquatic species passage, improve aquatic habitat connectivity, and stream channel stability.
- Routine road maintenance would improve water quality and impacts to the stream flow regime by decreasing runoff into streams (Scheetz and Bloser 2008). Roads will be designed and constructed to avoid directing surface runoff into streams.

Road maintenance is likely to occur at a faster rate under the proposed action because funds would be generated from timber sales to improve road condition.

If no action is taken, then routine road maintenance will occur as funding permits. There will be some improvement to existing Forest System roads and little or no improvement to non-system roads. Roads not receiving maintenance may continue to contribute sediment and increase runoff into streams.

**Large wood introduction would improve aquatic habitat diversity, trap sediment, and slow flood flows.** The addition of large wood to streams helps establish quality pools, slow flood flows, and store sediment and organic debris. The improvements are important for aquatic organism survival and propagation.

- Restoration of large wood levels would, in the short and long term, directly benefit juvenile and adult fish by creating larger lateral pools for rearing and resting and additional side channel over-wintering habitat.
- Montgomery and others (1995) documented that as the frequency of large wood increased within stream channels, both pool frequency and depth increased.
- In addition to increased pool frequency and depth, restoration of large wood levels benefits adult and juvenile trout by increasing hiding cover and retention of other organics (Cedarholm and others 2000).
- Large wood restoration would also provide roughness elements that would help regulate bed load movement of the stream channel and fine sediment deposition on the flood plain through time.
- Log complexes would also assist in the regulation of water velocity and infiltration of water on floodplains.

Without the addition of large wood, stream improvements and their associated benefits would take substantially longer. Full recovery could take 50 years or more in streams where riparian stands are in good condition and would require even more time in areas where conditions are poor. No additional large wood projects have been previously approved or proposed in the East Branch Tionesta Creek project area.

### Stream Flow and Water Quality in Watersheds

Measurable changes in water quantity and stream flow are predicted to occur if timber harvesting reduces the basal area of a watershed by more than 25 percent in a 5-year period. These concerns are evaluated in greater detail in the Forest Plan Final Environmental Impact

Statement, which concludes that changes are expected to recover within three to ten years, will be roughly proportional to the percent reduction in basal area, and are most likely to occur in small watersheds.<sup>15</sup> For this evaluation of basal area reduction in watersheds, five years was selected as an appropriate time for reduction of effects. Since at the stage of removal harvests regeneration of younger trees has already begun, effects from these harvests are expected to be decreasing after 5 years. In addition, a study in central Pennsylvania demonstrated that hydrologic recovery takes approximately 4 years (Lynch and Corbett 1990). To resolve potential effects, the following design features will be applied (see appendix B).

- Stagger the implementation of vegetation management treatments to ensure that basal area reduction does not exceed twenty-five percent in any given watershed over a five-year period, either individually from this project or cumulatively from all land management activities.
- To ensure implementation is staggered and treatments do not reduce basal area more than 25 percent over a 5-year period, treatments in the following small watersheds will require advance coordination among timber, hydrology, aquatics, and engineering staffs: Crane Run Lower Tributary 4, Crane Run Upper Tributary 1, Crane Run Upper Tributary 2, Crane Run Upper Tributary 3, Crane Run Upper Intershed, Unnamed tributary Crane Run Upper, East Branch Tionesta Creek Tributary 5, East Branch Tionesta Creek Tributary 7, Martin Run Headwaters, Martin Run Intershed 2, Martin Run Tributary 1, Martin Run Tributary 2, Martin Run Tributary 3, Martin Run Tributary 4, Unnamed tributary Martin Run Headwater, Unnamed tributary Martin Run Intershed, Pigeon Run Tributary 2 and Rock Run Tributary 2 (see map 8) (USDA-FS 2007a, page 74).

Where roads are near streams that are acidic, applying limestone sand in ditches will help improve buffering capacity of streams to reduce the effects of acid deposition during rain and snowmelt events.

Regarding cumulative effects, the proposed action will combine with the 144 acres of previously approved regenerations harvests, including 10 acres of non-commercial aspen regeneration. No difference in effects is anticipated since the same design features will apply.

If no action is taken, basal area reductions from proposed timber harvesting would not occur and activities will be limited to the 144 acres of previously approved regenerations harvests, including 10 acres of non-commercial aspen regeneration. Water quality and stream flow would be minimally affected since these activities represent less than one percent of the project area.

### Wetlands and Riparian Areas

Forest Plan standards and guidelines (USDA-FS 2007a, pages 74–78) will be applied to all Forest Service activities. Minimal impacts are predicted with the implementation of the Forest Plan standards and guidelines, including but not limited to:

- Commercial timber harvest will not occur in riparian areas to protect against erosion and sedimentation and to avoid other equipment impacts to channels. Typically,

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<sup>15</sup> See Forest Plan Final Environmental Impact Statement, pages 3-38, 3-39, 3-44, 3-45, and 3-51, which are incorporated by reference.

riparian areas include the area within 100 feet of perennial streams and within 50 feet of intermittent streams.

- Activities will exclude direct impacts to wetlands and will avoid indirect impacts using buffers. Wetlands, springs and seeps will be protected with a 25-foot no activity buffer and a 25 to 100 foot zone from these resources where 50 percent canopy cover would be maintained. Vernal pools will be protected with a 100-foot no activity buffer and a 100 to 200 foot zone where 50 percent canopy cover would be maintained.

## Recreation and Scenery

The effect on recreation is evaluated based on potential changes to the recreation opportunity spectrum,<sup>16</sup> scenic integrity, and recreation activity and use patterns. The geographic boundary for this analysis is the project area, and effects are analyzed over a 20-year timeframe.

Scenic integrity is generally moderate to very low throughout much of the project area, with a core of high scenic integrity level in the area northwest of Kane along state route 6 and south of the James City Road along state route 66. Scenic attractiveness is generally considered “common” within the project area, and there are no wide scenic views anywhere in the project area or looking into the project area.

- The proposed action would not result in permanent changes to the recreation opportunity spectrum or recreation opportunities or use patterns because the activities are consistent with a roaded natural experience, and monitoring of effects and active management will mitigate short-term impacts on these indicators. Therefore, no changes to recreation opportunity spectrum classifications would occur.
- Although short-term visual effects would occur as timber harvesting opens the forest canopy, project design features (appendix B) and Forest Plan standards and guidelines (USDA-FS 2007a, pages 62-64) would ensure that scenic integrity levels are maintained.
- The North Country National Scenic Trail bisects the project area (see maps 1 and 2). The North Country National Scenic Trail provides opportunities for long distance hiking and backpacking. Forest Plan standards and guidelines (USDA-FS 2007a, page 61) and project design features (see appendix B) will provide protections from impacts of the proposed treatments to the North Country National Scenic Trail.
- Some dispersed campsites would be closed, while others would be improved. Effects would be minor because all of the sites are typically not occupied at the same time. Where sites are near one another, crowding would be alleviated by closing sites that overlap and increasing spacing between sites. Improvements to open sites would enhance the attractiveness and utility of these sites and protect nearby streams from erosion resulting from compacted soil and loss of vegetation and the increase in stream sediment this causes.

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<sup>16</sup> The recreation opportunity spectrum is a system for classifying different recreation settings, opportunities, and experiences. There are five development levels, divided into a total of seven classes. These classes are described in Table 3-74 on page 3-300 the Forest Plan Final Environmental Impact Statement, which is incorporated by reference.

- Hunting and fishing opportunities would be temporarily disrupted for safety reasons during periods of equipment use or prescribed fire. Implementation, however, would improve these recreation opportunities in several ways. Greater road access and an increase in early structural habitat would improve hunting opportunities.

### Temporary Openings

If the proposed action is implemented 16 temporary openings greater than 40 acres in size may occur, ranging in size from 46 to 767 acres. Since the proposed regeneration harvests would take place over a 20-year period, the impacts would be dispersed through time and seen as a gradual increase of the openings, which would revegetate and close in as new openings are made. It is also likely that some temporary openings would grow into the next age class as other nearby temporary openings occur. This would provide successive age classes and a transitioning forest scene.

If no action is taken, no new temporary openings greater than 40 acres in size would be created.

### Cumulative Effects

It is unlikely that any of the stands for which management activities have been proposed would change the overall landscape character of the project area due to the history of vegetation management within the project area and the proposed activities are similar, if not the same as, to past management. They are compatible with existing scenic integrity levels, as well as with the recreational opportunity spectrum classes and current recreation activities and use patterns. Cumulatively, the effects resulting from past, proposed, and reasonably foreseeable future management activities would not exceed the established scenic integrity levels or recreation opportunity spectrum class of the project area, because the distribution of forested stands within the project area would vary little between the no action and implementation of the proposed action (see table 3). The proposed action would increase the amount of early-structural habitat within the next 20 years. The amount of late-structural habitat would increase under both alternatives, with a large increase in the no action alternative. The proportion of non-forest habitat may increase throughout all structural habitat classes, depending on the pace of new private oil and gas development.

### Air Quality

The Clean Air Act regulates the emission of air pollutants, and national ambient air quality standards have been set for six criteria pollutants: ground-level ozone, sulfur dioxide, carbon monoxide, nitrogen dioxide, particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>), and lead.

The geographic area where the Allegheny National Forest is located is in attainment of national ambient air quality standards for all criteria pollutants except for sulfur dioxide. The non-attainment area consists of a portion of Conewango Township, Glade Township, Pleasant Township, and the City of Warren. The activities proposed here are not located within or near the non-attainment area.

The cumulative effect of past, present and reasonably foreseeable future federal and non-federal actions are not expected to bring any of the criteria air pollutants currently in attainment to levels that exceed the National Ambient Air Quality Standards, nor are these actions expected to have any noticeable effect on ambient sulfur dioxide levels.



**Intensity Factor #2: The degree to which the proposed action affects public health or safety.****Herbicide Application**

Overall risks from the planned use of glyphosate and sulfometuron-methyl are expected to be low (USDA-FS 2007a, page ROD-23). Forest Plan standards and guidelines for herbicide application would be followed (USDA-FS 2007a, pages 54–59) and are based on the human health risk assessment (USDA-FS 2007b, Appendix G) completed for the Forest Plan Final Environmental Impact Statement (USDA-FS 2007b). A more recent human health and ecological risk assessment published in 2011 by Syracuse Environmental Research Associates (SERA 2011) examined potential hazards from use of glyphosate and concluded:

- The preponderance of the available data clearly indicates that the mammalian toxicity of glyphosate is low, and very few specific hazards can be identified.
- Many glyphosate formulations include surfactants, and the toxicity of these surfactants is of equal or greater concern to the risk assessment than is the toxicity of technical grade glyphosate.
- There are obvious, and in many cases substantial, differences among the toxicities of technical grade glyphosate, glyphosate formulations that do not contain a surfactant, and some glyphosate formulations that contain polyoxyethyleneamine surfactants.
- In general, it would be prudent to classify any formulation that contains a polyoxyethyleneamine surfactant as more toxic, except when there is a compelling reason to do otherwise.
- For members of the general public, the only non-accidental exposure scenario of concern is for acute exposure involving the consumption of contaminated vegetation shortly after glyphosate is applied.

The surfactant polyoxyethyleneamine is not used in any of the herbicide formulations proposed for use by the Forest Service on National Forest System lands within the Allegheny National Forest in the proposed action or any other management activities. Appendix A of the Forest Plan (USDA-FS 2007a, pages A-43–A-45) also contains additional information on site selection, herbicide selection, and application methods and rates. Any herbicide used in this project would be registered by the Environmental Protection Agency in full accordance with the Federal Insecticide, Rodenticide Act, as amended. Herbicide use would follow all Environmental Protection Agency and Commonwealth of Pennsylvania pesticide application regulations and Forest Service handbook and manual direction. Maximum application rates per acre stated in Tables 17 and 18 on page 56 of the Forest Plan would not be exceeded on any acre within any year. Based on monitoring results from previous projects with similar activities, herbicide treatments are anticipated to have negligible effects to public health or safety (USDA-FS 2008, pages 28–33).

**Prescribed Fire**

Smoke emissions from proposed prescribed burning would be of short duration. Smoke management through dispersion would be addressed in the burning parameters of the burn plan. The Forest Service would develop safeguards in burn plans to ensure the protection of

human life, any surrounding private lands or structures, any fire-sensitive forest communities, and local resources present on these sites.

### **Timber Harvesting**

The proposed action would avoid adverse impacts to public health and safety through implementation of Forest Plan standards and guidelines, Pennsylvania best management practices, project design features, timber sale contract requirements, Office of Safety and Health Administration requirements, and standard operating safety procedures (including oil and gas development operations). Standard precautionary measures would be applied, including but not limited to signing of roads, identifying the area as an active timber sale area, safely securing truck loads, and maintaining the timber haul routes.

### **Intensity Factor #3: Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.**

Please see intensity factor #8 below regarding historic or cultural resources. Two areas given special designation by the Forest Service, the Tionesta Scenic Area and the Tionesta Research Natural Area, border the project area. Regarding these two special areas and other potentially unique characteristics:

- The proposed action is not located within, and would not affect, any of the following areas: wilderness, wilderness study, wild and scenic rivers, national recreation areas, historic areas, or experimental forests.
- Road construction, reconstruction, and realignment may impact up to 6.9 acres of land that is considered prime farmland or farmland of statewide importance. This would be offset somewhat by decommissioning 1.3 acres (0.3 miles) of road that is on land that is considered prime farmland or farmland of statewide importance. The remainder of the proposed action would not remove topsoil, cover the surface, or otherwise impair land designated as prime farmland or farmland of statewide importance, or convert land managed as forest to non-forest or non-agricultural use.
- There are about 253 acres of wetlands in the project area on National Forest System Service land (about 2 percent of the project area), most occurring in the floodplain of East Branch Tionesta Creek. Forest Plan standards and guidelines and Pennsylvania best management practices will also be implemented to protect these areas. Activities will exclude wetlands direct impacts and will avoid indirect impacts using buffers. Wetlands, springs and seeps will be protected with a 25-foot no activity buffer and a 25 to 100 foot zone from these resources where 50 percent canopy cover will be maintained. Vernal pools would be protected with a 100-foot no activity buffer and a 100 to 200 foot zone where 50 percent canopy cover would be maintained. For additional information, please see appendix B and Forest Plan (USDA-FS 2007a, pages 77–78).
- The Tionesta Scenic Area (Management Area 8.3) borders the project area and proposed vegetation treatments. This area contains a remnant of the late structural forest that once covered the Allegheny Plateau. It serves as a primary scenic attraction and recreation destination for visitors seeking eastern old growth forests and associated large, beautiful trees. This area contains a mixture of older hardwoods and conifers whose natural cycle of growth and mortality has not been disturbed by

logging. Other disturbances, such as beech bark disease and wind events are evident. Two stands, 823029 and 823030, border the Tionesta Scenic Area boundary. Proposed activities in these stands are timber stand improvement and are not expected to affect the values of the Tionesta Scenic Area.<sup>17</sup> Proposed timber stand improvement treatments would involve non-commercial treatment of undesirable woody vegetation in the understory and midstory of forest stands by applying herbicide, using cut and frill, basal spray, or stem injection methods to improve the growing conditions and survival of desired tree seedlings, saplings, and shrubs. The stands proposed for timber stand improvement border the 1985 tornado swath with variable stocking and diseased American beech in many areas. The timber stand improvement is being prescribed to develop other tree species in the stand. These stands are not within the viewing area from the old platform on the “Scenic Circle” (forest road 133E). The platform was removed because it was in poor condition and the trees in the tornado swath have grown taller than the platform (see photo below).



*View from Long Loop Trail near its closest point with the Tionesta Scenic Area boundary looking towards stand 823029, photo by Linda White, Recreation Specialist*

- The Tionesta Research Area (Management Area 8.5) also borders the project area and proposed vegetation treatments. It is one of the largest remnants of the beech-hemlock forest that covered much of the region in the late 1700s. As a National Natural Landmark, Tionesta Research Natural Area helps illustrate the geological and ecological history of the Eastern United States and strengthen the public's appreciation of America's natural processes. The Tionesta Research Natural Area contains large hemlock and beech trees that are more than 300 years old, as well as young forests regenerated from windthrow events in recent decades. It provides an old growth setting for dispersed recreation, with high aesthetic and spiritual values.

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<sup>17</sup> The objectives of the Tionesta Scenic Area are included in the Forest Plan, pages 29, 153-156. The primary objective of the area is the protection of the ecological and historical values associated with old growth forests in the area. There are no specific standards and guidelines that apply to activities outside the Tionesta Scenic Area boundary.

The Forest Plan requires an evaluation of any proposed activity within 300 feet of the Tionesta Research Natural Area boundary to ensure that the proposed activity is consistent with the ecological values of the research natural area (USDA-FS 2007a, page 62).<sup>18</sup> Three stands, 831037, 831038, and 8310551, border the research natural area boundary and are proposed for a shelterwood sequence (regeneration harvest). Reserve areas will be placed along the boundary for a more natural appearing undulating boundary along the Tionesta Research Natural Area.

**Intensity Factor #4: The degree to which the effects on the quality of the human environment are likely to be highly controversial.**

We did not identify any substantial scientific controversy during the interdisciplinary review, environmental analysis, or public comment. The activities included in the proposed action are routine on the Allegheny National Forest, the effects are well known from decades of experience and monitoring, and the rationale for our choice of vegetation management practices is well documented in Appendix A of the Forest Plan.

**Intensity Factor #5: The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.**

No highly uncertain, unique, or unknown risks were identified during the interdisciplinary review, environmental analysis, or public comment. The activities included in the proposed action are routine on the Allegheny National Forest, the effects are well known from decades of experience and monitoring, and the rationale for our choice of vegetation management practices is well documented in Appendix A of the Forest Plan.

**Intensity Factor #6: The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.**

The proposed action does not establish a precedent for future actions with significant effects and does not represent a decision in principle about a future consideration.

- The size of the project area, size of individual treatment areas, scope of activities, duration of implementation, and prescribed methods are typical on the Allegheny National Forest.
- All management activities are consistent with Forest Plan direction for affected management areas and resources and are intended to directly address and achieve Forest Plan objectives.
- All connected actions have been included within the scope of the proposed action.

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<sup>18</sup> The Tionesta Research Natural Area is managed to maintain unmodified conditions for research, study observation, monitoring, and educational activities.

**Intensity Factor #7: Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.**

Cumulative effects have been addressed in context of beneficial and adverse effects. Please see the discussion above for intensity factor #1.

**Intensity Factor #8: The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.**

Implementation is not expected to result in any adverse effects. Eligible and unevaluated heritage resources for listing on the National Register of Historic Places will be protected by following the compliance process mandated by section 106 of the National Historic Preservation Act and recommendations outlined in the cultural resource report. All eligible and unevaluated sites will be protected by avoidance or other site-specific mitigations identified by the forest heritage program manager or district archaeologist.

**Intensity Factor #9: The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.**

There is no designated critical habitat for any federally threatened or endangered species on the Allegheny National Forest; therefore, implementation would not affect any designated critical habitat. Project-specific biological specialist reports (aquatic, botany, and wildlife) were prepared, are available in the project file, and are incorporated by reference. These reports concluded that implementation may affect, and is likely to adversely affect, the northern long-eared bat, which will be protected through Forest Plan standards and guidelines (USDA-FS 2007a, pages 81–82) and project design features (see appendix B). A no effect determination was reached for all other species (small whorled pogonia, northeastern bulrush, northern riffleshell, clubshell, rayed-bean, sheepnose, snuffbox, and rabbitsfoot) for both alternatives.

Although implementation may affect, and is likely to adversely affect, the northern-long eared bat under the proposed action, this project would not jeopardize the continued existence of the species. The primary factor cited in the proposed listing rule responsible for the decline of northern long-eared bat populations is white-nose syndrome. The U.S. Fish and Wildlife Service (2013) determined that although several activities, such as construction of physical barriers at cave accesses, mining, development, and timber harvest may modify or destroy northern long-eared bat habitat, these activities alone do not have significant, population-level effects on the species.

The impact of this project on individuals and habitat is not expected to adversely affect the conservation and recovery efforts for the species for several reasons, including but not limited to the following:

- Forest management and silviculture are vital to the long-term survival and recovery of the northern long-eared bat and the U.S. Fish and Wildlife Service have determined



that when the prohibitions for the species included in the final 4(d) rule are applied to forest management activities, the potential impacts would be significantly reduced (USDI-FWS 2016).

- Conducting timber harvest activities or tree removal outside the hibernation period could conceivably result in direct mortality or injury to northern long-eared bat by incidental felling of roost trees, particularly if non-volant bats are present. In areas of extensive intact forest, the likelihood that a given harvest would result in the loss of a maternity colony is small. Suitable habitat, as well as potential maternity roosts and day roosts, are abundant and widely distributed across the project area. Additionally, there are well over 18.9 million potential roost trees on the Allegheny National Forest (Miles 2015). The likelihood of direct mortality from prescribed fire is extremely low as the proposed burning would occur in early spring or fall. Timber harvest is an important tool that could improve forest structure by creating canopy gaps and snags, by reducing stand density and mid-story clutter, and by increasing forest diversity to maintain suitable roosting and foraging habitat.
- This project would provide protection for the northern long-eared bat during its most sensitive life stages. There are no known occupied maternity roosts in the project area, and there are no activities proposed within ¼ mile of known hibernacula. Should maternity roosts be found in the vicinity of proposed activities in the future, conservation measures will be applied to avoid cutting or destroying them unless they are in immediate safety hazard.

Forest Plan standards and guidelines implemented for Indiana bat (USDA-FS 2007a, pages 81–82, USDI-FWS 2007) will minimize potential harm or harassment to this species and retain key habitat components at the stand and landscape level. If no action is taken, then no effects to the northern long-eared bat are anticipated.

#### **Intensity Factor #10: Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.**

The proposed action complies with all applicable laws, regulations, and policies. These include the Clean Water Act, Wetlands and Floodplains Executive Orders, the Endangered Species Act, The National Historic Preservation Act, the National Environmental Policy Act, and the National Forest Management Act. The proposed action complies with all Forest Plan desired conditions, objectives, standards, and guidelines.

#### **Archaeological Resources Protection Act**

Cultural Resources are briefly described elsewhere in this environmental assessment. Survey results and a cultural report are provided in District Heritage records. We have consulted with tribes for this project. No tribal concerns were identified. The Forest Service is in the process of consulting with the Pennsylvania State Historic Preservation Office requesting concurrence for the East Branch Tionesta Creek project.

#### **Clean Air Act**

Warren County is identified as in non-attainment for sulfur dioxide. The area of non-attainment is localized in the city of Warren, and the surrounding communities of Conewango, Glade, and Pleasant Townships. The project area is in Elk and McKean Counties. Project area effects from the proposed action on the attainment of National



Ambient Air Quality Standards are not expected to be significant. Any effects of the proposed actions on air quality would be quickly diffused over time within the project area (USDA-FS 2007b, page 59). The amount of pollutants added to the atmosphere by equipment implementing the proposed actions over time is not expected to exceed the National Ambient Air Quality Standards for attainment, nor is the proposed actions expected to have any effect on the sulfur dioxide non-attainment area in the vicinity of Warren, Pennsylvania.

**Clean Water Act**

Within the project area there are no streams or lakes on the 303(d) list. No significant effects to water quality standards are anticipated by implementing the proposed action. Compliance with the Clean Water Act on the Allegheny National Forest is achieved with the implementation of project design features, Forest Plan standards and guidelines, and Pennsylvania best management practices.

**Environmental Justice (Executive Order 12898)**

Responses to the public scoping request did not identify any adversely impacted local minority or low-income populations. This project is consistent with the Forest Plan (USDA-FS 2007b, pages 3-433 to 3-436).

**Federal Cave Resources Protection Act**

No known caves exist within the project area; therefore, there would be no effects to caves.

**National Environmental Policy Act (NEPA)**

This act requires public involvement and consideration of potential environmental effects. The public was provided a scoping comment period beginning on November 26, 2019. A comment period is also provided in the release of this environmental assessment. Public comments received on the project are reviewed and responded to by the interdisciplinary team and the responsible official. An objection period will be provided for the draft decision that this environmental assessment supports. A final decision would follow any direction provided by the resolution of any potential objections. Consideration of potential environmental effects are provided in this environmental assessment and project file, as well as the tiering to the Forest Plan documents. The entirety of documentation for this environmental assessment supports compliance with the NEPA.

**National Forest Management Act (Forest Plan Consistency)**

Implementation of the proposed action is consistent with the intent of the Forest Plan's long-term goals and objectives provided for vegetation management and conforms to other resource standards and guidelines in the Forest Plan (USDA-FS 2007a). The project would be implemented without impairing the long-term productivity of National Forest System lands through implementation of design criteria. Measures to avoid or minimize effects include project design features, Forest Plan standards and guidelines, which at a minimum, meet the requirements of applicable laws and regulations, and Pennsylvania state standards, for the affected National Forest System lands. The analysis in this environmental assessment and supporting documentation in the project file show that the proposed action is consistent with the National Forest Management Act.

**Native American Graves Protection and Repatriation Act**

No Native American grave sites are known nor were any identified as a result of public scoping or consultation with tribal representatives.

**Wetlands (Executive Order 11990)**

See intensity factor #3 in this environmental assessment. This project does not propose any wetland developments or modifications. No significant effects are anticipated to wetlands in implementing the proposed action.

**Wild and Scenic Rivers Act**

There are no wild and scenic rivers in the area of the proposed action as described under intensity factor #3 in this environmental assessment; therefore, there are no impacts to wild and scenic Rivers by implementing the proposed actions.

**Authorities Related to Migratory Birds**

The Migratory Bird Treaty Act is a criminal statute that applies to the actual or attempted hunting, taking, capturing, killing, or possession of certain migratory birds and their nests or eggs. Past court decisions have addressed the Act's application to project-level work such as the East Branch Tionesta Creek project (see *Sierra Club v. Martin*, 110 F.3d 1551, 1555 [11th Cir. 1997]; *Curry v. U.S. Forest Service*, 988 F. Supp. 541, 550 [W.D. Pa. 1997]).

Executive Order 13186 was issued, in part, to ensure that environmental analyses of federal actions assess the impacts on migratory birds, and an expired Memorandum of Understanding between the U.S. Forest Service and the U.S. Fish and Wildlife Service has provided direction regarding migratory birds in the past. The effect of this project on migratory birds is discussed in the effects analysis of this environmental assessment and the wildlife specialist report. Design criteria are in place to mitigate impacts to migratory birds. The East Branch Tionesta project is consistent with all applicable requirements pertaining to migratory birds.

## **AGENCIES AND PERSONS CONSULTED**

The Forest Service consulted with the individuals/organizations on the NEPA mailing list, subsurface mineral owners, Federal, State, tribal, and local agencies (listed below) during the development of this environmental assessment:

### **Federal, State, and Local Agencies**

U.S. Fish and Wildlife Service  
Pennsylvania Department of Environmental Protection  
Pennsylvania Game Commission  
Pennsylvania State Historic Preservation Office

### **Tribes**

The Forest Service consulted with the 15 federally recognized Tribes that have historic ties to the area.

Absentee Shawnee Tribe of Oklahoma  
Eastern Shawnee Tribe of Oklahoma  
Shawnee Tribe  
Cayuga Nation  
Delaware Tribe Historic Preservation Representatives  
Delaware Nation  
Oneida Indian Nation  
Oneida Nation of Wisconsin  
Onondaga Nation  
Seneca Nation of Indians  
Seneca-Cayuga Nation  
St. Regis Mohawk Tribe  
Stockbridge-Munsee Mohican Tribal Historic Preservation  
Tonawanda Seneca Nation  
Tuscarora Nation

### **Others**

Elk County Commissioners  
Highland Township  
Ridgway Borough  
Spring Creek Township

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## APPENDIX A: DESCRIPTION OF PROPOSED TREATMENTS, METHODS, AND TERMINOLOGY AND LIST OF TREATMENTS BY STAND

### Treatment Descriptions for Vegetation Management and Reforestation

#### Timber Harvesting

- ***Overstory removal cut*** are being proposed where adequate advanced regeneration is already established in the understory. Overstory trees would be removed to allow full sunlight to reach and release the established seedlings.
- ***Shelterwood seed cut/shelterwood removal cut*** is a multiple-step regeneration harvest in which approximately one-third of the overstory and midstory is removed in the initial shelterwood seed cut to provide sunlight on the ground to encourage tree seedling development. After adequate tree seedlings develop, the shelterwood removal cut follows, in which nearly all the overstory trees are removed, allowing full sunlight to reach the established seedlings.
- ***Shelterwood preparatory cut/shelterwood seed cut/shelterwood removal cut*** is a multiple-step regeneration harvest that begins with a preparatory cut that enhances conditions for seed production by removing approximately 20 percent of the overstory and midstory to allow residual trees to increase crown size, vigor, and wind firmness. This is then followed by the shelterwood seed cut in which approximately one-third of the overstory and midstory is removed to provide sunlight on the ground to encourage tree seedling establishment. After adequate tree seedlings develop, the shelterwood removal cut follows, in which nearly all the overstory trees are removed, allowing full sunlight to reach the established seedlings.
- ***Two-Aged shelterwood seed cut/Two-Aged shelterwood removal cut*** is a multiple-step regeneration harvest utilized to establish a stand with two distinct age classes. The initial seed cut removes trees except for those needed for regeneration and to maintain 50-60 percent of full stocking. This establishment cut is then followed by the final harvest which would leave approximately 20-25 percent of full stocking to establish a two-aged stand.
- ***Commercial Thinning*** treatments are designed to reduce overcrowding in overly stocked stands, thereby enhancing the growth and quality of the residual stand. No more than one-third of the trees are typically removed in a single thinning treatment.
- ***Group selection to restore understory mature forest conditions*** is designed to accelerate the transition of even-aged hardwood stands to uneven-aged stands. It normally begins with a ***single-tree selection*** harvest in which approximately 30 to 40 percent of the trees are removed to increase light levels on the forest floor to promote the establishment of tree seedlings, shrubs, and herbaceous vegetation. A ***group-selection*** harvest is then implemented, typically within 3 to 15 years, to release the newly established seedlings. Group sizes range in size from one to three acres. Ideally, these treatments should be repeated every 20 to 40 years until the stand has been converted to a multi-aged condition.

- **Timber stand improvement** is a noncommercial treatment of undesirable woody vegetation in the understory and midstory of developing forest stands by applying herbicide, using as cut and frill, basal spray, or stem injection methods, to improve growing conditions and survival of desired tree seedlings, saplings, and shrubs.

## Reforestation

- **Chemical site preparation (herbicide treatments)** remove or reduce undesired understory vegetation in stands containing a dense ground cover of grasses, fern, beech root sprouts and striped maple that interfere with desired tree seedling establishment and growth. Herbicides approved for use by the Forest Plan, includes glyphosate-based products labeled for forestry use and sulfometuron methyl in the form of Oust®.
- **Manual site preparation** is used when mid-story trees and brush cast shade that interferes with the development of tree seedlings. Chainsaws or brush saws would be used to remove or reduce competing vegetation by felling mid-story non-preferred species to increase sunlight levels to the forest floor.
- **Fertilization** is used to accelerate the growth of seedling regeneration. It is used before and after the final harvest cut is complete, and normally only on unfenced stands that are more susceptible to deer browsing. Fertilization generally involves the aerial or ground application of nutrients on existing seedlings, usually during the month of May or June.
- **Area fencing and/or tree shelters** are used where deer browsing impacts are a concern. They are installed and maintained to exclude deer and reduce browsing on desired seedlings. These methods allow for desirable tree seedlings to develop and grow to a competitive size and beyond the risk for deer browsing. Fences and tree shelters are removed when objectives have been met.
- **Tree planting** is prescribed in areas where planned natural regeneration has failed, or where it is desirable to supplement natural tree seedling establishment to improve species diversity.
- **Release for species diversity** involves the non-commercial, manual cutting of woody vegetation that interferes with the growth and survival of desired tree seedlings, saplings, or shrubs in young stands (age class 20 years or less). Release promotes tree species diversity.

## Openings Larger than 40 Acres

In some areas, proposed regeneration harvests would create temporary openings that would exceed 40 acres in size. Our analysis will examine the effects to vegetation and other resources from the proposed temporary openings greater than 40 acres. The resulting temporary openings larger than 40 acres would ensure adequate stocking levels in stands affected by declining health of black cherry, beech bark disease complex, and other forest health concerns. As with all proposed activities, Forest Plan standards and guidelines will be followed for temporary openings created by the application of even-aged silviculture (USDA-FS 2007a, page 68). The proposal to create these large openings will receive Regional Forester review and concurrence. Proposed harvest treatments would be staggered over time so that less than 25 percent of any small watershed area would be in the 0 to 5-year age class at any given time.

The following table shows the combination of stands that when treated, would result in openings (areas or blocks) over 40 acres in size (please see map 3 for their location).

**Table A-1: Temporary blocks over 40 acres in size**

Block	Stands	Total Acres
1	836010, 836011, 836012	46
2	835007, 835011, [835039], [835041]	96
3	835020, 834028	75
4	834013, 834019, 834021, 834022, 834026	136
5	831026, 831048, 833004, 833006, 833007, 833008, 833009, 833010, 833012, 833013, 833014, 833015, 833023, 833034, 833035, 833046, 833047, 833049, 833056, 833057, 833062, 833064, 833068, 833069, 833071, 833072, 833075, 833077, 833078, 833079, 833086, 833087, 833088, 833089, 833090, 833094, 833101, 833102, 833103, 833104, 833112, 833116, 833117, 833119, 833122, 833124, 833126, 833131, (833135), 833136	767
6	831013, 831017, 831025, 831037, 831038, 831040, 831041, 831042, 831043, 831046, 831051, 831053	150
7	830015, 830016, 830021, 830022, 830024, 830043, 830061, [830066], 830070, 830073, 830077, 830084, 831001, 831004, 831005, 831006, 831012, 831015, 831030, 831032, 831034, 831035, 831049, 831055	523
8	830005, 830051, 830057	46
9	829008, (829009), 829010, 829014, 829015, 829027, 829032	81
10	827014, 827016, 827018, 827022, 827050, 827054, [827066], [827067], [827069], [828033]	206
11	826031, [826033], 826069, 826070	85
12	825011, 825037, 825040, 825041, 825044, 825046, 825047, 825048, 825052, 825054, 825056, 825057, 825058, 825059, 825063, 825066, 825064, 825068, 825076, 825078, 825081, 825087, 825089, 825091, 825092, 825095	323
13	824037, 824043, 824046, (824047), 824060, 824061, (824079), (824080)	112
14	824063	41
15	826008, 826009, [826045], (826051), [826090]	82
16	821062, 821063, 821068, (821069), 821070, (821085)	80

*Note: Stands without parentheses or brackets are proposed for regeneration harvest in the East Branch Tionesta Creek project. Stands in ( ) are stands that were approved for regeneration harvest in other projects and have recently been cut. Stands in [ ] are stands that with were approved for regeneration harvest in other projects but have not been cut yet.*

## Proposed Silvicultural Treatments by Stand

**Acronyms and abbreviations used in proposed silvicultural treatments table below****Objective***Grn = Green (emphasis on standing live trees)**Salv = Salvage (emphasis on salvage dying, diseased, or dead trees)**TSI = Timber Stand Improvement activities (TSI activities include release)**Refor = Reforestation (reforestation activities – including herbicide, site preparation, fertilizer, fencing, and planting; no timber harvesting)***Silvicultural Treatments (1<sup>st</sup> Entry, 2<sup>nd</sup> Entry, 3<sup>d</sup> Entry)***CT Commercial Thin**SWP Shelterwood Prep Cut**SWS Shelterwood Seed Cut**SWR Shelterwood Removal**OR Overstory Removal**TA-SWS Single Tree Selection for Two-Aged Management**TA-SWR Group Selection for Two-Aged Management**STS Single Tree Selection**GS Group Selection**TSI Timber Stand Improvement activities, such as release for species diversity**Note: The six-digit stand number listed in this table consists of the compartment number (first three digits) and the stand number (last three digits). For example, stand 636001 is stand 1 in compartment 636.***Table A-2: Proposed silvicultural treatments**

Stand	Objective	Management Area	Acres	1st Entry Proposed Treatment	2nd Entry Proposed Treatment	3rd Entry Proposed Treatment	Herbicide <sup>1</sup>	Site Prep <sup>1</sup>	Fertilization	Fence	Tree Shelters	Planting	Release
821015	Salv	2.2	28	STS	GS	*	28	28	0	28	2	2	28
821022	Salv	2.2	21	STS	GS	*	21	21	0	21	2	2	21
821023	Salv	2.2	17	STS	GS	*	17	17	0	17	1	1	17
821054	Salv	2.1	26	STS	GS	*	26	26	0	26	2	2	26
821062	Salv	3	6	SWS	SWR	*	6	6	0	6	1	1	6
821063	Salv	3	8	SWS	SWR	*	8	8	0	8	1	1	8
821068	Salv	3	28	SWS	SWR	*	28	28	0	28	3	3	28
821070	Salv	3	8	SWS	SWR	*	8	8	0	8	1	1	8
821071	Salv	2.1	12	STS	GS	*	12	12	0	12	1	1	12
821084	Salv	2.1	15	STS	GS	*	15	15	0	15	1	1	15
823002	Salv	2.2	42	STS	GS	*	42	42	0	42	3	3	42

Stand	Objective	Management Area	Acres	1st Entry Proposed Treatment	2nd Entry Proposed Treatment	3rd Entry Proposed Treatment	Herbicide <sup>1</sup>	Site Prep <sup>1</sup>	Fertilization	Fence	Tree Shelters	Planting	Release
823003	Salv	2.2	12	STS	GS	*	12	12	0	12	1	1	12
823004	Salv	2.2	25	STS	GS	*	25	25	0	25	2	2	25
823006	Salv	2.2	39	TA-SWS	TA-SWR	*	39	39	20	33	19	6	39
823009	Salv	2.2	56	STS	GS	*	56	56	0	56	5	5	56
823010	Salv	2.2	13	STS	GS	*	13	13	0	13	1	1	13
823020	Salv	2.2	17	STS	GS	*	17	17	0	17	1	1	17
823021	Salv	2.2	7	STS	GS	*	7	7	0	7	1	1	7
823025	Grn	2.2	32	TSI	*	*	32	0	0	0	0	0	0
823026	Salv	2.2	24	TSI	*	*	24	0	0	0	0	0	0
823029	Grn	2.2	24	TSI	*	*	24	0	0	0	0	0	0
823030	Grn	2.2	48	TSI	*	*	48	0	0	0	0	0	0
823034	Salv	2.2	20	STS	GS	*	20	20	0	20	2	2	20
823059	Salv	2.2	10	Refor	OR	*	10	10	0	10	1	1	10
824022	Salv	3	10	SWS	SWR	*	10	10	0	10	1	1	10
824037	Salv	3	11	SWS	SWR	*	11	11	0	11	1	1	11
824043	Salv	3	3	Refor	OR	*	3	3	0	3	1	1	3
824046	Salv	3	8	Refor	OR	*	8	8	0	8	1	1	8
824056	Refor	3	11	Refor	PLTG	*	6	6	0	0	6	6	6
824057	Salv	3	15	SWS	SWR	*	15	15	0	15	2	2	15
824060	Salv	3	4	SWS	SWR	*	4	4	0	4	0	0	4
824061	Salv	3	7	SWS	SWR	*	7	7	0	7	1	1	7
824063	Salv	3	41	SWS	SWR	*	41	41	0	41	4	4	41
825011	Salv	3	17	SWS	SWR	*	17	17	0	17	2	2	17
825037	Salv	3	14	SWS	SWR	*	14	14	0	14	2	2	14
825041	Salv	3	16	SWS	SWR	*	16	16	0	16	2	2	16
825044	Salv	3	14	SWS	SWR	*	14	14	0	14	1	1	14
825046	Salv	3	4	SWS	SWR	*	4	4	4	4	0	0	4
825047	Salv	3	4	SWS	SWR	*	4	4	0	4	1	1	4
825054	Salv	3	9	SWS	SWR	*	9	9	0	9	1	1	9
825056	Salv	3	5	SWS	SWR	*	5	5	5	5	1	1	5
825057	Salv	3	15	SWS	SWR	*	15	15	15	15	2	2	15
825058	Salv	3	17	SWS	SWR	*	17	17	17	17	2	2	17
825059	Salv	3	14	SWS	SWR	*	14	14	14	14	1	1	14
825064	Salv	3	5	SWS	SWR	*	5	5	5	5	1	1	5
825066	Salv	3	6	SWS	SWR	*	6	6	0	6	1	1	6

Stand	Objective	Management Area	Acres	1st Entry Proposed Treatment	2nd Entry Proposed Treatment	3rd Entry Proposed Treatment	Herbicide <sup>1</sup>	Site Prep <sup>1</sup>	Fertilization	Fence	Tree Shelters	Planting	Release
825068	Salv	3	7	SWS	SWR	*	7	7	0	7	1	1	7
825076	Salv	3	4	SWS	SWR	*	4	4	0	4	1	1	4
825078	Salv	3	4	SWS	SWR	*	4	4	0	4	0	0	4
825087	Salv	3	2	Refor	OR	*	2	2	0	2	0	0	2
825091	Salv	3	14	SWS	SWR	*	14	14	14	14	2	2	14
825092	Salv	3	2	SWS	SWR	*	2	2	2	2	0	0	2
826008	Salv	3	18	SWS	SWR	*	18	18	0	18	2	2	18
826009	Salv	3	4	SWS	SWR	*	4	4	0	4	0	0	4
826013	Salv	3	29	SWS	SWR	*	29	29	29	29	3	3	29
826024	Grn	3	11	CT	*	*	0	0	0	0	0	0	0
826031	Salv	3	23	SWS	SWR	*	0	23	23	23	2	2	23
826069	Salv	3	10	SWS	SWR	*	10	10	10	10	1	1	10
826070	Salv	3	38	SWS	SWR	*	38	38	38	38	4	4	38
826075	Salv	3	14	Refor	OR	*	14	14	0	14	1	1	14
826076	Salv	3	18	Refor	OR	*	18	18	0	18	2	2	18
827001	Grn	3	17	Refor	OR	*	17	17	0	17	2	2	17
827002	Salv	3	33	CT	*	*	0	0	0	0	0	0	0
827014	Salv	3	19	SWS	SWR	*	19	19	0	19	2	2	19
827016	Salv	3	22	SWS	SWR	*	22	22	0	22	2	2	22
827018	Salv	3	51	SWS	SWR	*	51	51	0	51	5	5	51
827022	Salv	3	19	SWS	SWR	*	19	19	0	19	2	2	19
827034	Salv	3	18	Refor	OR	*	18	18	0	18	2	2	18
827041	Salv	3	16	Refor	OR	*	16	16	0	16	2	2	16
827050	Salv	3	17	SWS	SWR	*	17	17	0	17	2	2	17
827054	Salv	3	22	SWS	SWR	*	22	22	0	22	2	2	22
827070	Salv	3	6	SWS	SWR	*	6	6	0	6	1	1	6
828001	Salv	3	36	SWS	SWR	*	36	36	0	36	4	4	36
829008	Salv	3	11	Refor	OR	*	11	11	11	11	1	1	11
829010	Salv	3	24	SWS	SWR	*	24	24	24	0	2	2	24
829014	Salv	3	7	SWS	SWR	*	7	7	0	0	1	1	7
829015	Salv	3	3	SWS	SWR	*	3	3	0	0	1	1	3
829015	Salv	3	1	SWS	SWR	*	1	1	0	0	0	0	1
829024	Salv	3	9	Refor	OR	*	9	9	9	9	1	1	9
829027	Salv	3	12	SWS	SWR	*	12	12	12	12	1	1	12
829032	Salv	3	7	SWS	SWR	*	7	7	7	0	1	1	7



Stand	Objective	Management Area	Acres	1st Entry Proposed Treatment	2nd Entry Proposed Treatment	3rd Entry Proposed Treatment	Herbicide <sup>1</sup>	Site Prep <sup>1</sup>	Fertilization	Fence	Tree Shelters	Planting	Release
830005	Salv	3	20	SWS	SWR	*	20	20	0	20	2	2	20
830009	Salv	3	23	SWS	SWR	*	23	23	0	23	3	3	23
830012	Salv	3	6	SWS	SWR	*	6	6	0	6	1	1	6
830015	Salv	3	17	SWS	SWR	*	17	17	0	17	2	2	17
830016	Salv	3	41	SWS	SWR	*	41	41	0	41	4	4	41
830021	Salv	3	37	SWS	SWR	*	37	37	0	37	4	4	37
830022	Salv	3	51	SWS	SWR	*	51	51	0	51	5	5	51
830024	Salv	3	38	SWS	SWR	*	38	38	0	38	4	4	38
830029	Salv	3	19	SWS	SWR	*	0	19	0	19	2	2	19
830043	Salv	3	21	SWS	SWR	*	21	21	0	21	2	2	21
830051	Salv	3	8	SWS	SWR	*	8	8	0	8	1	1	8
830057	Salv	3	18	SWS	SWR	*	18	18	0	18	1	1	18
830061	Salv	3	13	SWS	SWR	*	13	13	0	13	2	2	13
830067	Salv	3	5	SWS	SWR	*	5	5	0	0	1	1	5
830070	Salv	3	9	SWS	SWR	*	9	9	0	9	1	1	9
830073	Salv	3	17	SWS	SWR	*	17	17	0	17	2	2	17
830077	Salv	3	16	SWS	SWR	*	16	16	0	16	2	2	16
830084	Salv	3	18	SWS	SWR	*	18	18	18	18	2	2	18
831001	Salv	3	8	SWS	SWR	*	8	8	0	8	1	1	8
831004	Salv	3	16	SWS	SWR	*	16	16	0	16	2	2	16
831005	Salv	3	40	SWS	SWR	*	40	40	0	40	4	4	40
831006	Salv	3	20	SWS	SWR	*	20	20	0	20	2	2	20
831012	Salv	3	35	SWS	SWR	*	35	35	0	35	4	4	35
831013	Salv	3	16	SWS	SWR	*	16	16	16	16	2	2	16
831015	Salv	3	15	SWS	SWR	*	15	15	0	15	2	2	15
831017	Salv	3	16	SWS	SWR	*	16	16	16	16	2	2	16
831022	Salv	3	28	SWS	SWR	*	28	28	0	28	3	3	28
831025	Salv	3	12	SWS	SWR	*	12	12	0	12	1	1	12
831026	Salv	3	11	SWS	SWR	*	11	11	0	11	1	1	11
831030	Salv	3	7	SWS	SWR	*	7	7	0	0	1	1	7
831032	Salv	3	36	SWS	SWR	*	36	36	0	36	4	4	36
831034	Salv	3	14	SWS	SWR	*	14	14	0	14	1	1	14
831035	Salv	3	12	SWS	SWR	*	12	12	0	12	1	1	12
831037	Salv	3	34	SWS	SWR	*	34	34	0	34	3	3	34
831038	Salv	3	6	SWS	SWR	*	6	6	0	6	1	1	6
831040	Salv	3	8	SWS	SWR	*	8	8	0	8	1	1	8

Stand	Objective	Management Area	Acres	1st Entry Proposed Treatment	2nd Entry Proposed Treatment	3rd Entry Proposed Treatment	Herbicide <sup>1</sup>	Site Prep <sup>1</sup>	Fertilization	Fence	Tree Shelters	Planting	Release
831041	Salv	3	8	SWS	SWR	*	8	8	0	8	1	1	8
831042	Salv	3	9	SWS	SWR	*	9	9	9	9	1	1	9
831043	Salv	3	9	SWS	SWR	*	9	9	9	9	1	1	9
831046	Salv	3	19	SWS	SWR	*	19	19	0	19	2	2	19
831048	Salv	3	6	SWS	SWR	*	6	6	0	0	1	1	6
831049	Salv	3	8	SWS	SWR	*	8	8	0	8	1	1	8
831051	Salv	3	9	SWS	SWR	*	9	9	0	9	1	1	9
831053	Salv	3	4	SWS	SWR	*	4	4	4	4	0	0	4
831055	Salv	3	21	SWS	SWR	*	21	21	0	21	2	2	21
833004	Salv	3	35	SWS	SWR	*	35	35	35	35	3	3	35
833006	Salv	3	32	SWS	SWR	*	32	32	32	32	3	3	32
833007	Salv	3	7	SWS	SWR	*	7	7	0	7	1	1	7
833008	Salv	3	13	SWS	SWR	*	13	13	13	13	1	1	13
833009	Salv	3	19	SWS	SWR	*	19	19	0	19	2	2	19
833010	Salv	3	27	SWS	SWR	*	27	27	0	27	3	3	27
833012	Salv	3	40	SWS	SWR	*	40	40	40	40	4	4	40
833013	Salv	3	23	SWS	SWR	*	23	23	23	23	2	2	23
833014	Salv	3	15	SWS	SWR	*	15	15	15	15	2	2	15
833015	Salv	3	8	SWS	SWR	*	8	8	0	8	1	1	8
833023	Salv	3	4	SWS	SWR	*	4	4	0	4	1	1	4
833026	Salv	3	29	SWS	SWR	*	29	29	0	29	3	3	29
833028	Salv	3	22	SWS	SWR	*	22	22	0	22	2	2	22
833034	Salv	3	6	SWS	SWR	*	6	6	0	6	1	1	6
833035	Salv	3	23	SWS	SWR	*	23	23	23	0	3	3	23
833035	Salv	3	5	OR	*	*	0	0	5	0	0	0	5
833046	Salv	3	19	SWS	SWR	*	19	19	19	19	2	2	19
833047	Salv	3	25	SWS	SWR	*	25	25	0	25	2	2	25
833049	Salv	3	13	SWS	SWR	*	13	13	0	13	1	1	13
833056	Salv	3	10	SWS	SWR	*	10	10	0	10	1	1	10
833057	Salv	3	14	Refor	OR	*	14	0	14	14	1	1	14
833062	Salv	3	9	SWS	SWR	*	9	9	0	9	1	1	9
833064	Salv	3	40	SWS	SWR	*	40	40	0	40	4	4	40
833068	Salv	3	20	SWS	SWR	*	20	20	0	20	2	2	20
833069	Salv	3	27	SWS	SWR	*	27	0	27	27	3	3	27
833071	Salv	3	6	SWS	SWR	*	6	6	6	6	1	1	6
833072	Salv	3	12	SWS	SWR	*	12	12	12	12	1	1	12

Stand	Objective	Management Area	Acres	1st Entry Proposed Treatment	2nd Entry Proposed Treatment	3rd Entry Proposed Treatment	Herbicide <sup>1</sup>	Site Prep <sup>1</sup>	Fertilization	Fence	Tree Shelters	Planting	Release
833075	Salv	3	10	SWS	SWR	*	10	10	10	10	1	1	10
833077	Salv	3	16	SWS	SWR	*	16	0	0	16	2	2	16
833078	Salv	3	9	SWS	SWR	*	9	9	0	9	1	1	9
833079	Salv	3	7	SWS	SWR	*	7	7	0	7	1	1	7
833084	Salv	3	22	SWS	SWR	*	22	22	0	22	2	2	22
833085	Salv	3	18	SWS	SWR	*	18	18	0	18	2	2	18
833086	Salv	3	7	SWS	SWR	*	7	7	0	7	1	1	7
833087	Salv	3	26	SWS	SWR	*	26	26	0	26	3	3	26
833088	Salv	3	20	SWS	SWR	*	20	20	0	20	2	2	20
833089	Salv	3	6	SWS	SWR	*	6	6	0	6	1	1	6
833090	Salv	3	16	SWS	SWR	*	16	16	0	16	2	2	16
833091	Salv	3	6	SWS	SWR	*	6	6	0	6	1	1	6
833094	Salv	3	14	SWS	SWR	*	14	14	0	14	1	1	14
833101	Salv	3	8	SWS	SWR	*	8	8	0	8	1	1	8
833102	Salv	3	23	SWS	SWR	*	23	23	0	23	2	2	23
833103	Salv	3	4	SWS	SWR	*	4	4	0	4	0	0	4
833104	Salv	3	9	Refor	OR	*	9	9	0	9	1	1	9
833112	Salv	3	7	SWS	SWR	*	7	7	0	7	1	1	7
833116	Salv	3	14	SWS	SWR	*	14	14	0	14	1	1	14
833117	Salv	3	9	SWS	SWR	*	9	9	9	9	1	1	9
833119	Salv	3	28	SWS	SWR	*	28	28	28	28	3	3	28
833120	Salv	3	11	SWS	SWR	*	11	11	0	11	1	1	11
833122	Salv	3	14	SWS	SWR	*	14	14	0	14	1	1	14
833124	Salv	3	7	SWS	SWR	*	7	7	0	7	1	1	7
833126	Salv	3	15	SWS	SWR	*	15	15	0	15	2	2	15
833131	Salv	3	25	SWS	SWR	*	25	0	25	0	3	3	25
833136	Salv	3	2	Refor	OR	*	2	2	0	0	1	1	2
834013	Salv	3	26	SWS	SWR	*	26	26	0	26	3	3	26
834019	Salv	3	47	SWS	SWR	*	47	47	0	47	5	5	47
834021	Salv	3	14	SWS	SWR	*	14	14	0	14	1	1	14
834022	Salv	3	42	SWS	SWR	*	42	42	0	42	4	4	42
834026	Salv	3	7	SWS	SWR	*	7	7	0	7	1	1	7
834028	Salv	3	15	SWS	SWR	*	15	15	0	15	2	2	15
835005	Salv	3	23	Refor	OR	*	23	23	0	23	2	2	23
835007	Salv	3	11	SWS	SWR	*	11	11	0	11	1	1	11
835011	Salv	3	38	SWS	SWR	*	38	38	38	38	4	4	38

Stand	Objective	Management Area	Acres	1st Entry Proposed Treatment	2nd Entry Proposed Treatment	3rd Entry Proposed Treatment	Herbicide <sup>1</sup>	Site Prep <sup>1</sup>	Fertilization	Fence	Tree Shelters	Planting	Release
835014	Salv	3	20	Refor	OR	*	20	20	20	20	2	2	20
835015	Salv	3	9	Refor	OR	*	9	9	0	9	1	1	9
835019	Salv	3	10	Refor	OR	*	10	10	10	0	1	1	10
835020	Salv	3	60	SWS	SWR	*	60	60	60	0	6	6	60
835021	Salv	3	32	Refor	OR	*	32	32	32	0	3	3	32
835023	Salv	3	6	Refor	OR	*	6	6	6	0	1	1	6
835033	Salv	3	8	Refor	OR	*	8	8	0	0	1	1	8
836008	Salv	3	21	SWS	SWR	*	21	21	0	21	2	2	21
836010	Salv	3	16	SWS	SWR	*	16	16	0	16	2	2	16
836011	Salv	3	21	SWS	SWR	*	21	21	0	21	2	2	21
836012	Salv	3	9	SWP	SWS	SWR	9	9	0	9	1	1	9

### Proposed Wildlife Habitat Enhancements

The project area can support a diversity of soft and hard mast producing trees and shrubs. Proposed wildlife habitat enhancements would focus on establishing mid-story and understory soft and hard mast-producing species in suitable areas for wildlife species that utilize mast. The proposed activities would supplement reforestation treatments by establishing trees and shrubs that are desirable to wildlife. The proposed plantings would not convert sites to a different vegetation type but would help these tree and shrub species to become established and flourish without further intervention.

- **Planting** 45 acres with native mast-producing trees and shrubs is proposed to provide future forage and cover for a variety of wildlife species.
- Installing **fencing, cribs, or tree shelters** is being proposed for 45 acres to protect planted trees and shrubs from deer browsing.
- Installing 9 **wildlife structures** (man-made) is proposed to provide nesting and roosting opportunities for cavity dwellers and other wildlife.
- **Rehabilitating** 73 acres of wildlife openings. Rehabilitation activities may consist of prescribed burning (9 acres), herbicide application, bulldozing, lime application, fertilizer application, seeding, plowing, disking, and tilling.
- Constructing 65 **brush piles** is proposed across the project area. Field surveys conducted in the project area revealed a general lack of structure on the forest floor aside from widely scattered windthrown trees and large boulders. Proposed brush piles would increase the amount of escape and concealment cover for a variety of wildlife species in forested stands which, aside from the dense fern cover in summer, lack ground cover conducive to wildlife concealment on the forest floor.

Table A-3: Proposed wildlife habitat improvements

Stand	Plant (acres)	Fence (acres)	Install Structures (number)	Brush Piles (number)	Opening Rehabilitation (acres)
822008	3	3	-	-	10
823006	2	2	-	-	-
823014	2	2	-	-	-
823020	2	2	-	-	-
823021	-	-	-	5	-
823059	2	2	-	-	-
824037	2	2	-	-	-
824057	1	1	-	-	-
824060	-	-	-	5	-
825054	-	-	-	5	-
825092	-	-	-	5	-
826031	2	2	-	-	-
826070	2	2	-	-	-
827004	-	-	1	-	10
827005	-	-	-	-	1
827007	-	-	2	-	35 (8) <sup>1</sup>
827010	-	-	-	-	1
827022	2	2	-	-	-
827025	-	-	1	-	5
827026	-	-	1	-	2
827034	-	-	-	-	1
827036	-	-	2	-	7
827062	-	-	-	-	1 (1) <sup>1</sup>
827070	2	2	-	-	-
829008	-	-	-	5	-
830009	2	2	-	-	-
830016	2	2	-	-	-
830029	5	5	-	5	-
830084	-	-	-	5	-
831013	-	-	-	5	-
831022	-	-	-	5	-
831037	-	-	-	5	-
831040	-	-	-	5	-
833005	-	-	2	-	-
833009	2	2	-	-	-
833014	1	1	-	-	-
833023	-	-	-	5	-
833062	2	2	-	-	-
833064	2	2	-	-	-
833078	-	-	-	5	-
833124	2	2	-	-	-
835005	2	2	-	-	-
835007	1	1	-	-	-
835046	2	2	-	-	-
<b>Totals</b>	45	45	9	65	73

<sup>1</sup> Acres proposed for prescribed burning within the wildlife opening.

## Proposed Aquatic Habitat and Water Quality Treatments

**Aquatic habitat treatments:** This project proposes to fell and place on average, 90 trees per mile into stream to improve stream conditions. Some sections of larger streams may have up to 185 trees per mile. By doing so, stream processes, such as ground water infiltration, discharge rates, and low flow rates, can be restored or improved, as well as large wood functions such as establishing pools, adding protective cover, and trapping and sorting of spawning gravel. Trees would be felled within the riparian area and would only occur where large woody debris is lacking, and trees are available to be felled without significantly reducing stream shading or bank stability. Trees would be placed at locations which would help stabilize eroding banks, improve pool habitat, and improve aquatic habitat. Trees of sufficient size would be positioned so they are stable in the stream and floodplain. Two levels of treatment are being proposed for implementation.

- Level 1 consists of felling trees into the stream as well as maneuvering them into place by use of a grip hoist or winch (45.5 miles) (see table A-4).
- Level 2 consists of uprooting trees, utilizing either a grip hoist (0.5 miles) or heavy equipment (0.2 miles) and utilizing those means to maneuver it into place in the stream. The heavy equipment work would occur at 4 different locations on East Branch Tionesta Creek. Trees would be harvested along the trail used to access the stream.

**Table A-4: Proposed aquatic habitat treatments locations**

Stream Name (includes unnamed tributaries)	Large Wood Additions (miles)
Bloody Run	1.5
Crane Run	3.1
East Branch Tionesta Creek	16.3
Hoffman Run	1.9
Martin Run	11.7
Pigeon Run	2.2
Rock Run	6.3
Thomas Run	1.6
West Run	1.6
<b>Total</b>	<b>46.2</b>

**Roadside ditch liming:** Approximately 19.6 miles of roadside ditches within 300 feet of streams would be lined with limestone sand during road maintenance (as well as received high-quality limestone surfacing). These limestone ditches would supply buffering capacity to the watershed during rain and snowmelt events, using the road and its stormwater system as a passive treatment system.



## Proposed Non-native Invasive Plant Treatments

Ten (10) non-native invasive plant species<sup>19</sup> of concern for the Allegheny National Forest have been documented along roads, streams, and within stands and stone pits in the project area. Non-native invasive plant treatment would occur on up to 340 acres throughout the project area using a combination of manual, mechanical, and herbicide treatments.

- **Manual treatment** could include pulling, digging, or hand-roughing.
- **Mechanical treatment** would include brush-cutting, mowing, or removal by motorized equipment.
- **Herbicide treatment** would include the use of glyphosate and would be applied in accordance with Forest Plan standards and guidelines.

These combinations of treatments could occur several times during a growing season, or over a period of several years until the infestations have been effectively treated. Due to the nature of non-native invasive plants, additional non-native invasive plant infestations could be treated if found within the project area, consistent with applicable Forest Plan direction.

## Proposed Recreation Improvements

Within the project area, most dispersed campsites are located near water, usually along open forest roads. Dispersed campsites are frequently occupied from the beginning of trout season through hunting season. This continual use can result in loss of vegetation, compaction of soil, loss of woody debris from collecting firewood, and litter. Table A-5 lists **recreational improvements** that are being proposed to mitigate these impacts and establish a more sustainable dispersed camping experience.

**Table A-5: Dispersed campsite proposals**

Site Number	No change/Improve	Proposal
133-1		Make a two-car tent site. Move fire ring. Rehabilitate lower part of site with scarification and seeding. Leave a trail to the creek. Place boulders around the north entrance to make it only two-cars deep. Place boulders across the south entrance to block it.
133-2	Improve	Block end of parking. Define parking area, campsite, and surface. Place boulders to block mud hole at turn-around spot. Place boulders from mud hole to trees near fire ring. Place boulders from trees to edge of site.
133-3	Improve	Resurface parking area.
133-4	Improve	Define parking and surface. Place boulders tying into existing boulders and trees.
133-5	No change	None needed.
133-6	No change	None needed.
133-7	No change	None needed.
133-8	No change	None needed.
133-9	No change	None needed.
149-1 (Fox's Dam)	Improve	Harden footpath to the site.

<sup>19</sup> Chinese privet, colt's foot, garlic mustard, glossy buckthorn, Japanese barberry, multiflora rose, professor-weed (goats-rue), spotted knapweed, Tartarian honeysuckle, and yellow sweetclover

149-2 (Fox's Dam)	Improve	Define parking area and surface. Block vehicle access to site. Place boulders across front of both sites. Place boulders between sites.
Site Number	No change/Improve	Proposal
149-3 (Fox's Dam)	Improve	Place boulders to differentiate sites and prevent vehicles from entering site. Define parking and surface.
195-2	Improve	Block access to site and creek. Define parking area and surface. Place boulders at creek. Place boulders at parking area to prevent access to site.
470-1	No change	None needed.
529-1	Improve	Add limestone surfacing.
594-1	No change	None needed.
594-2	No change	None needed.

### Proposed Transportation Management

The project area contains approximately 236 miles of roads – 65 miles of National Forest System roads, 30 miles of State and Township roads, 141 miles of non-system roads, primarily oil and gas access roads. The National Forest System roads are managed for public motor vehicle use as follows: 31 miles are open year-round, 9 miles are seasonally restricted, and 25 miles are closed year around. Approximately 11.4 miles of the roads within the project area are mixed-use for both roads and trails (6.8 miles of forest roads, 3.4 miles of municipal roads and 1.2 miles of non-system roads). The mixed-use roads include 0.3 miles of the North Country National Scenic Trail and 11.1 miles of the Allegheny Snowmobile Loop and connectors.

A safe and efficient transportation system is critical in meeting the diverse needs of the public and managers of the Allegheny National Forest. As a result of the transportation analysis process mandated by Subpart A of the Travel Management Rule, recommendations found in the Kane Experimental Forest Travel Analysis Project (2015), Windy City Travel Analysis (2015) and Martin Run Roads Analysis Project Reports (2005) identify the most ecologically, economically and socially sustainable transportation system in terms of access for recreation, research and other land management activities. The Kane Experimental Forest, Windy City and Martin Run Travel Analysis and Roads Analysis Projects include several recommendations within the East Branch Tionesta Creek project area. This project will consider, analyze, and make a decision considering those recommendations.

Management of the transportation system within the project area includes work needed to facilitate access to stands proposed for vegetation management over the life of the project. Approximately 3.7 miles of roads are proposed to be added to the Forest Service transportation system. This includes approximately 2.8 miles of existing non-system roads (not municipal or part of the National Forest Service Road system) and approximately 0.9 mile is new road construction.

To protect soil and water resources within the project area, road decommissioning is proposed for 1.4 miles of Forest Service system and non-system roads (see Map 5) that are no longer needed or are poorly located. Full obliteration is proposed for these roads. In addition, changing forest road 476 from “open” to “restricted”, installing new gates, and realigning 1.3 miles of forest roads 471 and 586 are proposed to protect soil and water resources in the project area. High quality road surfacing (limestone) is proposed for approximately 19.6 miles of road in areas adjacent to or near stream courses to harden and

stabilize the road running surface, reduce sedimentation, and to provide some buffering capacity to surface runoff that does not reach streams.

None of the proposed activities would affect any of the unroaded areas greater than 500 acres in size identified in the Forest-wide Roads Analysis Process (2005). East Fork Run Unroaded Area #13 (1,538 acres) lies mainly to the west of the project area (see map 1) with several fingers extending into the project area; However, this unroaded area has been reduced in size from the area shown on Map 1 due to recent private oil and gas road development.

The transportation system activities prescribed for this project are summarized in table A-6 below and displayed in Map 3.

**Table A-6: Transportation proposals**

Road Activity	Total Mileage	Proposed <sup>1</sup> /Existing Road Numbers (Miles)			
		Road Number	Existing Status	Proposed Status	Miles
Road construction – new corridor <sup>1</sup>	0.9	325C extension			0.2
		325CB			0.2
		476CAA			0.2
		586AA			0.1
		634			0.2
Add existing non-system road corridor to the National Forest Transportation System (which may involve road reconstruction, construction, or realignment) <sup>1</sup>	2.8	195C			0.4
		197 extension			0.1
		198A			0.7
		325C extension			0.5
		325CA			0.1
		325CB			0.3
		325CC			0.1
		325D			0.4
		473 extension			0.2
Road reconstruction – realignment	1.3	471			1.2
		586			0.1
Road decommissioning – includes National Forest System road and non-system road corridors	1.4	467			0.5
		471			0.8
		Non-system roads <sup>2</sup>			0.1
Road maintenance on potential timber haul roads	48	Various National Forest System roads			
Road management changes	0.3	Road Number	Existing Status	Proposed Status	Miles
		476	Open	Restricted	0.3
New gate installation	4 gates	325C extension, 467, 476 (relocation), 594A (spur road to Hoffman Farm)			

Road Activity	Total Mileage	Proposed <sup>1</sup> /Existing Road Numbers (Miles)	
High quality road surfacing	19.6	126	2.3
		126C	0.1
		133	7.7
		133A	0.1
		133E	0.3
		149	0.4
		149A	0.1
		152	0.2
		195	1.6
		195B	0.3
		196	0.1
		197	0.2
		198	0.1
		258	0.1
		258C	0.1
		264	0.2
		264A	0.5
		264C	0.1
		276	0.2
		276A	0.4
		324	0.1
		325C	0.2
		423	0.2
		462A	0.2
		468	0.9
		469	0.3
		470	0.3
		471	0.1
		473	0.5
		473A	0.1
		476	0.4
		476C	0.4
		529	0.7
		529A	0.1

<sup>1</sup> Proposed road numbers<sup>2</sup> Non-system roads NS023399, NS039137 (see map 5)

## APPENDIX B: PROJECT DESIGN FEATURES

All design criteria in the Allegheny National Forest Land and Resource Management Plan (or Forest Plan) (USDA FS 2007, pages 53–99; 106–115) apply to federal actions on the Allegheny National Forest<sup>20</sup>. The proposed action has been designed to be implemented in accordance with Forest Plan forest-wide, Management Area 2.1, Management Area 2.2, and Management Area 3.0 standards and guidelines (USDA-FS 2007, pages 106–115). The Forest Plan is located on the Allegheny National Forest website at: <https://www.fs.usda.gov/detail/allegheny/landmanagement/planning/?cid=stelprdb5044083>.

Project design features are highlighted applications of the Forest Plan standards and guidelines. A design feature clarifies, where necessary, how these standards and guidelines may apply to specific activities in the action alternatives.

### *Soil and Water*

- On those portions of each stand with group 2 and 3 soils, cutting and skidding are permitted during dry or frozen conditions or during the entire normal operating season using equipment meeting low ground pressure requirements (**USDA-FS 2007, page 73**).
- Portions of stands **824063, 825044, 833047, 833094, 833101, and 833122** contain historic landslides, which could be susceptible to mass movement. Heavy equipment use on slopes greater than 15 percent with soils susceptible to mass movement should occur when soils are dry (**USDA-FS 2007, page 72**).
- Limestone surface armoring of roads (at stream crossings) shall be applied on planned timber haul routes prior to timber hauling (**USDA-FS 2007, page 75**).
- In the following small watersheds, timber harvests shall be staggered to ensure that no more than 25 percent of any of these watersheds would be in the 0 to 5 year age class at any point during implementation of the project and that no more than 25 percent of the basal area within any of these watersheds would be removed in any five year period during implementation of the project (see map 8) (**USDA-FS 2007, page 74**).
  - **Crane Run Lower Tributary 4**
  - **Crane Run Upper Tributary 1**
  - **Crane Run Upper Tributary 2**
  - **Crane Run Upper Tributary 3**
  - **Crane Run Upper Intershed**
  - **East Branch Tionesta Creek Tributary 5**
  - **East Branch Tionesta Creek Tributary 7**
  - **Martin Run Headwaters**
  - **Martin Run Intershed 2**
  - **Martin Run Lower**
  - **Martin Run Tributary 1**
  - **Martin Run Tributary 2**
  - **Martin Run Tributary 3**

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<sup>20</sup> Deviation from Forest Plan standards require an amendment to the Forest Plan. No amendments are proposed for this project. Deviations from Forest Plan guidelines are not planned for this project. If deviation from a guideline is needed during implementation, the deviation will be documented in the project file.

- **Martin Run Tributary 4**
- **Pigeon Run Tributary 2**
- **Rock Run Tributary 2**
- **Unnamed Tributary of Crane Run Upper**
- **Unnamed Tributary of Martin Run Headwater**
- **Unnamed Tributary of Martin Run Intershed**

### ***Non-native Invasive Plant Species***

- Any areas proposed for ground disturbance that were not surveyed for target plants will be surveyed prior to the disturbance and conducted during the appropriate time of year when plants are identifiable to species (**USDA-FS 2007, page 89**).
- Native, local genotype seeds/plants will be used in restoration (**USDA-FS 2007, page 53**).
- In order to reduce the potential for introduction or spread of non-native invasive plant species, certified weed-free straw will be used for erosion control (**USDA-FS 2007, page 53**).
- In order to reduce the potential for introduction or spread of non-native invasive plant species, an equipment cleaning provision will be included in timber sale and other contracts (**USDA-FS 2007, page 53**).
- Skid trails and landings will be placed in weed free areas (if possible) (**USDA-FS 2007, page 53**).
- If any regional forester sensitive species, federally listed, or plant species with a viability concern is identified prior to or during project implementation, project actions will cease and the district botanist will be notified to determine potential impacts/effects and mitigation measures (**USDA-FS 2007, page 89**).

### ***Wildlife, Botany, and Regional Forester Sensitive Species***

- In the event a northern long-eared bat hibernacula or roost tree is discovered the interim 4d rule conservation measures below will be implemented. In addition, the conservation measures in the R9 Programmatic BA will be implemented. Appropriate Forest Plan standard and guidelines on pages 74 to 82 will be implemented. This include standards and guidelines on pages 81 to 82 and 88 for all bat species (**USDA-FS 2007**).

#### **R9 Programmatic Biological Assessment Conservation Measures:**

- Designate caves and mines that are occupied by bats as smoke-sensitive targets. Avoid smoke entering these hibernacula when bats are present.
- Within 0.25 miles of known, occupied northern long-eared bat hibernacula, timber harvest will be designed to maintain, enhance, or restore swarming, staging, roosting, and foraging habitat. The future desired condition is that these areas will feature structurally complex, resilient forest communities with a continuous supply of snags, culls, cavities, and other quality roosts.
- Application of herbicides and other pesticides should be planned to avoid or minimize direct and indirect effects to known, occupied threatened, endangered, or sensitive bat hibernacula and maternity roosts.



- Before old buildings, wells, cisterns, and other man-made structures are structurally modified or demolished, they will be surveyed for bats. If an occupied threatened, endangered, or sensitive bat roosting is found, demolition or modification of these structures will not occur when bats are present and the need for alternative roosts will be evaluated.
- Avoid cutting or destroying known, occupied northern long-eared bat maternity roost trees unless they are an immediate safety hazard.
- Where needed to provide drinking sources for bats, create small wetlands or water holes.
- Avoid and protect milkweed encountered in herbaceous openings, along ditchlines/roads, and abandoned well sites when harvesting timber or spraying herbicide. Include milkweed seed/plugs in selected herbaceous opening rehabilitation in the proposed action. Regulate timing of future mowing and prescribe burning to enhance optimum milkweed growing conditions in selected herbaceous openings (**USDA-FS 2007, pages 80–81**).
- In all **silvicultural treatments proposals**, reserve or protect all known apple trees, crabapples, and native shrubs to the degree possible (**USDA-FS 2007, page 65**).
- In all **silvicultural treatments**, do not cut any eastern white pine, except for operational trees (safety). In all **silvicultural treatments in Management Areas 2.1 and 2.2**, do not cut eastern hemlock greater than 18 inches in diameter at breast height. In all **silvicultural treatments in Management Area 3.0**, retain large eastern hemlock for seed and wildlife habitat (**USDA-FS 2007, page 65**).
- In all **aquatic treatment proposals**, do not cut, fell, or damage mast producing trees, such as oak, cucumbertree, and apple, or soft mast producing shrubs. Other deciduous trees will be the primary choice of tree for felling while ensuring a deciduous component remains on site as a seed source. Do not cut/fell or damage conifers greater than 18 inches in diameter at breast height or any white pine. Conifers (excluding white pine) will only be cut/fell where they make up a more than 60 percent of the tree canopy and where they are necessary for the structure and function of the aquatic treatment. In remaining areas, do not cut or fell conifer, except for operational trees (safety) (**USDA-FS 2007, page 65**).
- In all **aquatic treatment proposals**, native plant and shrub communities will be protected/buffered from all aquatic treatments (**USDA-FS 2007, page 65**).
- In all **dispersed recreation site treatments**, protect native vegetation to the degree possible while closing, rehabilitating, and correcting soil and water concerns. This includes, but is not limited to native plants, shrubs, and trees, and wildlife habitat components of conifer, apple trees, and aspen (**USDA-FS 2007, page 65**).
- In all **road decommission treatments**, when implemented protect native vegetation to the degree possible. This includes but is not limited to native plants, shrubs, and trees, and wildlife habitat components of conifer, apple trees, and aspen (**USDA-FS 2007, page 65**).
- In all **wildlife opening rehabilitation treatments** (existing herbaceous openings), protect existing apple trees, native shrubs, fences, and other wildlife structures. Consult with wildlife biologist prior to locating harvest skid trails or landings in openings. Maintain access to all openings. All disturbed/impacted areas will be

rehabilitated back to their existing condition (**USDA-FS 2007, page 81**).

- In all **prescribed burning treatments** in herbaceous wildlife openings, protect all threatened, endangered, and sensitive species, promote their habitat, and protect existing wildlife improvements and infrastructure, such as wildlife planting and fencing, and den/nesting structures (**USDA-FS 2007, page 81**).
- In all **aquatic treatment proposals**, avoid felling/damaging any trees which contain cavities (**USDA-FS 2007, page 80**).
- In all **aquatic treatment proposals**, in order to avoid disturbance to nesting raptors or herons and to avoid felling trees which may contain nests, it is recommended that personnel conducting tree-felling activities remain attentive by scanning the upper canopy of trees to be felled as well as adjacent trees for nests and also by listening/watching for bird species which may show signs of distress/agitation due to proximity to active nests/territories. Furthermore, based on time of year (nesting season), it is recommended that work be tentatively discontinued in areas where wildlife species have been observed exhibiting this behavior (**USDA-FS 2007, pages 85-86, and 88**).
- In all **brush pile construction** activities, avoid felling or damaging snags and other trees, which may contain cavities (**USDA-FS 2007, page 82**).
- Implementation of **transportation proposals**, including road construction, reconstruction, realignment, and decommissioning, and **aquatic treatment proposals** will not occur until the sites which will be disturbed are identified and surveyed for potential wildlife habitat attributes. Before implementation occurs, these sites will be surveyed by a biologist, botanist and/or biological technician (**USDA-FS 2007, page 89**).

### *Heritage*

- Site-specific heritage design features are not listed due to the confidential nature of the information. Standards and guidelines for heritage resources are listed in the Forest Plan and East Branch Tionesta Creek Cultural Resource Report. Appropriate heritage resource personnel will be contacted prior to formalizing any sale or implementation contract or other resource treatments involving ground disturbing activities to include any design features to heritage sites in contracts or agreements (**USDA-FS 2007, page 62**).
- In any contract or agreement, the following statement will be included, as appropriate: If any previously unknown or unrecorded sites are found during project implementation, any ground disturbing activity will cease, and the appropriate heritage resource personnel notified. A heritage resource specialist will evaluate the situation and determine the proper course of action (**USDA-FS 2007, page 62**).

### *Scenery and Recreation*

- In stands **831037, 831038, and 831051**, reserve areas will be placed along the boundary with the **Tionesta Research Natural Area** to have a more undulating natural-looking boundary instead of a straight line (**USDA-FS 2007, page 62**).
- Along concern level 1 and 2 travel ways (state routes 6, 66, and 3002, township road 301, forest roads 133, 133E, 149, 152, 195, and 470 and the Allegheny Snowmobile

Loop), leave ¼ acre buffer areas or feather edges of openings, as needed (**USDA-FS 2009, pages 7–8**).

- Log landings shall incorporate screening when viewed from a concern level 1 or 2 travel ways (state routes 6, 66, and 3002, township road 301, forest roads 133, 133E, 149, 152, 195, and 470 and the Allegheny Snowmobile Loop) and be rehabilitated to mimic natural openings (**USDA-FS 2009, pages 7–8**).
- Along concern level 1 and 2 travel ways (state routes 6, 66, and 3002, township road 301, forest roads 133, 133E, 149, 152, 195, and 470 and the Allegheny Snowmobile Loop), slash shall be pulled back 50 feet from the edge of the road or trail, and for an additional 50 feet, slash shall be lopped and scattered to a depth of 3 feet. Treatment should be accomplished within one year of harvesting (**USDA-FS 2009, pages 7–8**).
- All stumps within 50 feet of and visible from state routes 6, 66, and 3002 and forest road 133E (concern level 1 travel way) shall be flush cut (**USDA-FS 2009, pages 7–8**).
- From the centerline of the North Country National Scenic Trail, leave a minimum 100-foot no-cut buffer along both sides of trail (**USDA-FS 2007, page 61**).
- No marking paint will be seen from the North Country National Scenic Trail and avoid using blue paint near the North Country National Scenic Trail (**USDA-FS 2007, page 61**).
- Minimize trail crossings. Restore the trail to prior condition upon completion of crossing. The North Country National Scenic Trail will not be used for skidding (**USDA-FS 2007, page 61**).
- No timber harvesting activities on weekends/holidays in stands **821015, 821054, 824022, 824037, 824057, and 824063** (**USDA-FS 2007, page 61**).
- Inform the Allegheny National Forest Chapter of the North Country National Scenic Trail of contracted timber sales in the vicinity of the North Country National Scenic Trail and put up signage informing hikers of logging activities (**USDA-FS 2007, page 61**).

## **LITERATURE CITED**

USDA-Forest Service. 2007. Allegheny National Forest Land and Resource Management Plan and Record of Decision. Warren, PA.

U.S. Department of Agriculture, Forest Service. 2009. Allegheny National Forest Scenery Implementation Guide, Version 1.2, Warren, PA.

## APPENDIX C: EFFECTS RESOLVED THROUGH PROJECT DESIGN

### The effect of heavy equipment operation on the introduction and spread of non-native invasive plants.

Heavy equipment may transport seeds from one area to another and the soil disturbance during operations may create suitable growing conditions for non-native invasive species.<sup>21</sup> These concerns are evaluated in greater detail in the Forest Plan Final Environmental Impact Statement, which concludes that removing varying amounts of overstory trees could improve growing conditions for shade intolerant non-native invasive plant species, but because of the temporary nature of the openings this is expected to be a short-term effect.<sup>22</sup> To resolve potential effects, a number of design criteria will be applied. Some of these are briefly summarized below, with additional detail provided in appendix B and the Forest Plan (USDA-FS 2007a, pages 53–54).

- Standard contract clauses will require equipment inspection and cleaning prior to off-road use on National Forest System lands (**USDA-FS 2007, page 53**).
- Native, local genotype seeds/plants will be used in restoration (**USDA-FS 2007, page 53**).
- In order to reduce the potential for introduction or spread of non-native invasive plant species, certified weed-free straw will be used for erosion control (**USDA-FS 2007, page 53**).
- Skid trails and landings will be placed in weed free areas (if possible) (**USDA-FS 2007, page 53**).

### The effect of timber harvesting on intermediate or poorly drained soils.

Intermediate or poorly drained soils may be compacted or rutted by the heavy equipment used during timber harvesting. These concerns are evaluated in greater detail in the Forest Plan Final Environmental Impact Statement, which concludes that these areas will usually be small enough and scattered so infiltration and tree growth at the stand scale will not be detrimentally impacted.<sup>23</sup> To resolve potential effects, several design criteria will be applied. Some of these are briefly summarized below, with additional detail provided in appendix B and the Forest Plan (USDA-FS 2007a, pages 72–74).

- Timber harvesting and other heavy equipment operation are restricted to dry or frozen conditions, perennially wet areas will be avoided, and low ground-pressure equipment will be used as appropriate. If these mitigations are insufficient, then the use of heavy equipment will be avoided (USDA-FS 2007a, page 73).
- On soils susceptible to mass movement when loaded, excavated, or wet, use of heavy equipment on slopes greater than 15 percent would only occur when soils are dry. If

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<sup>21</sup> Increased light may penetrate the soil, allowing seeds previously stored in the seedbank to germinate and grow.

<sup>22</sup> See Forest Plan Final Environmental Impact Statement pages 3-292 to 3-293, which are incorporated by reference.

<sup>23</sup> See Forest Plan Final Environmental Impact Statement pages 3-10, 3-14, 3-15, which are incorporated by reference.

the risk of landslides during these periods of concern cannot be mitigated, activities will be prohibited (USDA-FS 2007a, page 72).

### **The effect of timber harvesting on soil nutrient concentrations.**

Timber harvesting results in the removal of nutrients stored in trees, which could result in impacts to the nutrient cycle. These concerns are evaluated in greater detail in the Forest Plan Final Environmental Impact Statement, which concludes that timber harvesting has minimal impact on soil nutrient levels.<sup>24</sup> To resolve potential effects, several design criteria will be applied. Some of these are briefly summarized below, with additional detail provided in the Forest Plan. (USDA-FS 2007a, pages 72–74)

- To maintain soil nutrients, avoid whole tree harvesting and leave slash from harvest operations where felled. Slash may be used to reduce compaction by driving over the slash in the skid trails, but all slash should remain in the unit and should not be hauled to the landing (USDA-FS 2007a, page 73).
- If tree tops are hauled to the landing, the slash will be returned to the unit and scattered throughout (USDA-FS 2007a, page 73)
- In areas of partial or final timber harvest, scattered tree tops and branches (slash) should be left where felled throughout the stand. A minimum of one 12 inch or greater diameter at breast height log (minimum of 8 feet long) per acre should be left in final harvest units (USDA-FS 2007a, page 80).

### **The effect of fertilizer application on soil and water.**

Fertilizer use during even-aged management changes soil nutrient concentrations and could impact soil and water quality if base cations leach off-site or fertilizer runs into streams. These concerns are evaluated in greater detail in the Forest Plan Final Environmental Impact Statement, which concludes that fertilizer application will not significantly affect soils or water quality due to a combination of local geology, rapid uptake by nitrogen demanding species, and water buffers.<sup>25</sup> To resolve potential effects, several design criteria will be applied. Some of these are briefly summarized below, with additional detail provided in the Forest Plan (USDA-FS 2007a, page 71).

- Nitrogen and phosphorus fertilizer should be used primarily on the Allegheny hardwood forest type, where the predominance of seedlings is black cherry, or the potential for regeneration failure exists (USDA-FS 2007a, page 71).
- To help maintain soil nutrient (base cation) status, broadcast application of nitrogen-based fertilizer on plateau, shoulder and upper backslope landforms should be avoided (USDA-FS 2007a, page 71).
- During fertilization projects, a buffer strip of 50 feet should be maintained along streams with flowing water (USDA-FS 2007a, page 71).
- Base application rate on soil nutrient deficiencies.

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<sup>24</sup> See Forest Plan Final Environmental Impact Statement pages 3-11 to 3-16, which are incorporated by reference.

<sup>25</sup> See Forest Plan Final Environmental Impact Statement pages 3-8, 3-12, 3-16, 3-19, 3-33, 3-35, 3-36, 3-106, 3-122, 3-156, which are incorporated by reference.



- Avoid application before rainstorms.

### **The effect of herbicide application on soil and water.**

Herbicide has the potential to affect soil nutrient concentrations and may enter streams during periods of rain and storm events. These concerns are evaluated in greater detail in the Forest Plan Final Environmental Impact Statement, which concludes that stream chemistry, soil nutrients, microorganisms, and productivity will not be adversely affected due to a combination of treatment methods and buffer distances.<sup>26</sup> To resolve potential effects, several design criteria will be applied. Some of these are briefly summarized below, with additional detail provided in the Forest Plan (USDA-FS 2007a, pages 54–59).

- Herbicides proposed in this project include glyphosate and sulfometuron methyl. Glyphosate binds readily to soils becoming relatively immobile, so there is limited potential for residual effects or effects to soil nutrients. Sulfometuron methyl herbicide is more mobile in soil than glyphosate but has a short half-life in acidic soils. Although listed as “inhibitory” for some soil fungi and bacteria, it is broken down by water and microorganisms and has an expected half-life of approximately three weeks when applied on the Allegheny.
- To minimize the need for re-treatment, foliar herbicide application should not occur when rain is anticipated within four hours at the treatment site (USDA-FS 2007a, page 55).
- Application rates are limited, and waterways will be buffered (see appendix B and Forest Plan for details) (USDA-FS 2007a, pages 57–58).

### **The effect of road construction, reconstruction, and maintenance on water.**

Transportation management activities may affect both water quality and water quantity. These concerns are evaluated in greater detail in the Forest Plan Final Environmental Impact Statement, which concludes proper road design will avoid changes to surface and subsurface flow.<sup>27</sup> To resolve potential effects, several design criteria will be applied. Some of these are briefly summarized below, with additional detail provided in appendix B and the Forest Plan.

- New road construction, road reconstruction, and hauling on roads within 300 feet of streams have the greatest potential for adverse effects to water quality and water quantity. The proposed action includes 0.9 miles of new road construction and 1.3 miles of road realignment. This is not expected to cause changes to water quality as none of the proposed road construction or realignment would be within 300 feet of streams.
- Limestone will be placed on roads within 300 feet from streams to reduce sediment loads (USDA-FS 2007a, page 75).

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<sup>26</sup> See Forest Plan Final Environmental Impact Statement pages 3-12 and 3-14; and Appendix G, pages G1-42 to G1-44 and G1-104, and G1-106, which are incorporated by reference. See also Allegheny National Forest FY 2008–FY 2013 Monitoring and Evaluation Report pages 185 to 191.

<sup>27</sup> See Forest Plan Final Environmental Impact Statement, pages 3-38, 3-39, 3-44, and 3-45, which are incorporated by reference.

**The effect of prescribed fire on soil and water.**

Prescribed fire (nine acres of herbaceous openings [warm season grasses] burned every 3 to 5 years once established) would result in minimal, short-term effects to water and soils. These concerns are evaluated in greater detail in the Forest Plan Final Environmental Impact Statement, which concludes that effects would be minimal and temporary if prescribed burn plans are followed and low intensity burns occur as planned.<sup>28</sup>

- Burns would be of low to moderate intensity and low to moderate severity fires, where vegetation usually returns very quickly after this disturbance. Implementation would reduce ground cover for a few days or weeks and may increase soil pH until revegetation occurs. Low intensity fires, however, can also facilitate nutrient cycling and increase availability of some plant nutrients.
- Prescribed fire would consume ground cover, but temperatures would not be high enough to consume the organic layer of the soil or the roots, so erosion would be minimal. After intense precipitation that causes overland runoff, some movement of ash to nearby streams may occur. To reduce the risk of this, a sufficient vegetated buffer would be maintained in riparian corridors.
- An estimated 600 to 900 gallons of water per day over one day could be withdrawn to facilitate burning and mop-up of nine acres of warm season grasses prescribed burning every 3 to 5 years. Implementation of Forest Plan guidelines would ensure that the drafting of water from a stream for this and other incidental uses would maintain existing uses such as fish and aquatic life.<sup>29</sup> This volume is minimal considering a small stream in this project area may flow one million gallons per day in the summer.

**The effect of proposed activities on climate change and carbon sequestration.**

The effects of the project level treatments are not discernible at the level of global climate because of the many intervening variables that are outside the control of the Forest Service at the project level. A report that estimates baseline carbon stocks in forests and harvested wood products for National Forest system units (USDA-FS 2015) determined that total forest ecosystem carbon (in all seven pools) stored in the Eastern Region slowly increased rapidly between 2005 and 2013. The Allegheny National Forest is specifically mentioned as a unit in which total forest ecosystem carbon increased during that time. Forest management that generates long-lived wood products, such as lumber and furniture, transfer ecosystem carbon to the harvested wood products pool where carbon remains stored and not contributing to net greenhouse gas emissions (USDA-FS 2015). Harvested wood products from project activities would sequester carbon, and the project area would continue to sequester carbon as new growth becomes established. This would help offset any greenhouse gas emissions that may occur in the project area and elsewhere in the Allegheny National Forest. Proposed activities are within the scope of the current Forest Plan. Under the Forest Plan, the cumulative effects of management activities and projects thus far have resulted in an increasing trend in carbon sequestration on the Allegheny National Forest, as indicated by the report completed in 2015 (USDA-

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<sup>28</sup> See Forest Plan Final Environmental Impact Statement, pages 3-14 and 3-41, which are incorporated by reference.

<sup>29</sup> See Forest Plan, page 76.

FS 2015). Additional detailed cumulative analysis at the project level is unlikely to alter or enhance the outcome of this report. Potential effects of proposed activities on climate change are very small as indicated by its potential annual contribution to forest-wide greenhouse gas emissions.

A project level carbon assessment has been completed for the East Branch Tionesta Creek project and has been posted to the Allegheny National Forest website. In summary, the East Branch Tionesta Creek project affects a relatively small amount of forest land and carbon on the Allegheny National Forest and might temporarily contribute an extremely small quantity of greenhouse gas emissions relative to national and global emissions. Except for proposed road construction, the proposed action would not convert forest land to other non-forest uses, thus allowing any carbon initially emitted from the proposed action to have a temporary influence on atmospheric greenhouse gas concentrations, because carbon would be removed from the atmosphere over time as the forest regrows. Effects from proposed road construction would be offset over time by proposed road decommissioning. Furthermore, the proposed project would transfer carbon in the harvested wood to the product sector, where it may be stored for several decades and substitute for more emission intensive materials or fuels. This proposed action is consistent with internationally recognized climate change adaptation and mitigation practices.

Also, proposed regeneration harvests would not occur until there is adequate advanced regeneration (seedlings and saplings) present to ensure the growth of a new stand of trees; therefore, trees are always present on-site storing carbon and removing pollutants from the air.

The following design criteria also help to mitigate the effects of timber harvesting and temporary openings greater than 40 acres in size.

- In all harvest systems and forest types, retain a component of healthy trees of species, which are minor components of a stand, particularly mast producers (USDA-FS 2007a, page 65).
- In timber harvest units, retain low-growing, flowering, and fruiting trees and shrubs unless their presence would preclude adequate regeneration of the desired tree species. ... Where necessary to remove low growing, flowering, fruiting trees or wild grape, ensure a component is retained within the stand and on the landscape (USDA-FS 2007a, page 65).
- In intermediate cuttings and the first entry of a regeneration sequence (e.g. a shelterwood seed cut or transition cut) retain good quality seed trees of diverse species representative of the existing stand and desired in the next stand. Preserve seed sources of scarce species and strive for uniform spacing among residuals whenever possible (USDA-FS 2007a, page 65).
- Retain hemlock and white pine in stands, particularly in winter ranges, where it provides habitat for species with viability concerns, or where it is a minor component on the landscape. Where desirable to regenerate a forested stand, and it is necessary to remove hemlock or white pine, ensure a component is retained within the stand (>15 feet of basal area/acre) and on the landscape (USDA-FS 2007a, page 65).

- To provide thermal cover and habitat diversity, maintain a rhododendron, white pine and mountain laurel component in harvest units where they currently occur (USDA-FS 2007a, page 65).
- To maintain soil nutrients, avoid whole tree harvesting and leave slash from harvest operations where felled. Slash may be used to reduce compaction by driving over the slash in the skid trails, but all slash should remain in the unit and should not be hauled to the landing (USDA-FS 2007a, page 73).
- In areas of partial or final harvest, scattered treetops and branches (slash) should be left where felled throughout the stand. A minimum of one 12 inch or greater DBH log (minimum of 8 feet long) per acre should be left in final harvest units (USDA-FS 2007a, page 80).
- In all timber harvest units, one-quarter acre within each 5 acres of harvest should be set aside as reserve areas. Layout of reserve areas should emphasize the following: vernal ponds, wet depressions, unique plant communities, rock complexes, den trees, snags, conifers, mast-producing species, and tree or shrub species that are a minor component of the stand (USDA-FS 2007a, page 80).
- Where they occur, up to five den trees per acre greater than 20 inches DBH should be retained. Den trees exhibit at least one noticeable cavity. Trees with the largest cavity receive the highest retention priority (USDA-FS 2007a, page 80).
- Staggering timber harvests within the small watersheds within the project area to ensure that no more than 25 percent of any of these small watersheds will be in the 0 to 5 year age class at any point during implementation of the project and that no more than 25 percent of the basal area within any of these watersheds will be removed in any five year period during implementation of the project;
- Applying mitigation measures that break up contiguous openings, such as stream and other resource buffers (USDA-FS 2007a); and
- Other actions that reduce opening size due to operability or other resource concerns (USDA-FS 2007a).

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- U.S. Department of Agriculture, Forest Service. 2007a. Allegheny National Forest Land and Resource Management Plan and Record of Decision. Warren, PA.
- U.S. Department of Agriculture, Forest Service. 2007b. Allegheny National Forest Final Environmental Impact Statement for the Land and Resource Management Plan. Warren, PA.
- USDA-Forest Service. 2015. Baseline estimates of carbon stock in forests and harvested wood products for National Forest System Units, Eastern Region. March 6, 2015. 58 pp.

## APPENDIX D: RESPONSE TO SCOPING COMMENTS

### INTRODUCTION

This report summarizes the scoping process for the East Branch Tionesta Creek project and presents an analysis of the scoping comments received from the public. The scoping period began on November 26, 2019 when the scoping package was mailed to interested individuals and organizations, including adjacent landowners, special use permittees, and subsurface mineral owners. The scoping package was also posted on the Allegheny National Forest website on November 26, 2019. The East Branch Tionesta Creek project was listed in the Allegheny National Forest schedule of proposed actions (SOPA) starting with the January 2019 issue. The scoping comment period for this project ended on December 27, 2019. Seven individuals/organizations (listed below) submitted comments during the scoping period.

- Borough of Ridgway
- Ridgway Township
- Allegheny Forest Alliance
- Ruffed Grouse Society
- Richard Mauk
- Pauline Steinmeyer
- North County Trail Association
- Friend of Allegheny Wilderness

The respondents' comments are included in the project file and summarized here. Four of the respondents are supportive of the proposed action. Our responses to the remaining comments and concerns are provided below. No issues were identified by the interdisciplinary team or responsible official that led to formulation of another action alternative.

**Comment 1:** *..., there appears to be a number of inaccuracies and inconsistencies relating to the actual number of stands included in blocks with openings greater than 40 acres in the project and the total picture of the openings identified on Map 2 and Map 6.*

**Response:** All the stands listed in the **Temporary blocks over 40 acres in size** table (on page 11 of the scoping proposal) were shown on scoping map 6. However, the auto-labeling function used to identify the stands on the map did not display all the stand labels on scoping map 6. This has been corrected on map 6 that is included with the environmental assessment.

**Comment 2:** *Numerous stands have been identified in the table of "Proposed silvicultural treatments" (pages 12-18) for 1<sup>st</sup> Entry reforestation treatment and 2<sup>nd</sup> Entry overstory removal treatment. It is not clear to this reader how stands can receive reforestation treatments followed by overstory removal and not result in additional temporary openings. Perhaps this could be clarified in the environmental assessment by at minimum including a definition of "overstory removal" to the vegetative management treatment definitions presently found on page 9 and define which reforestation activity is being proposed for those stands.*

**Response:** The definition of overstory removal was inadvertently left out of the scoping proposal. The definition has been added to Appendix A of the environmental assessment.

Overstory removal cuts are proposed where adequate advanced regeneration is present and established in the understory. Sometimes, additional reforestation treatments are needed prior to removing the overstory trees to ensure that we have adequate advanced regeneration to ensure growth of a new stand of trees.

**Comment 3:** *In order to have a clear picture of exactly how many stands are in the blocks of openings over 40 acres in size, Map 2 needs to show all stand that are going to receive silvicultural treatment, Map 6 needs to show all the stands receiving vegetative management treatments which will result in blocks of openings greater than 40 acres and the “Temporary blocks over 40 acres in size” table needs to be consistent with the maps.*

**Response:** Map 2 shows all the stands proposed for silvicultural treatment in the East Branch Tionesta Creek project. Map 6 shows all the stands that could result in temporary openings greater than 40 acres from the East Branch Tionesta Creek and previous projects. Information on stands approved in previous projects not shown on Map 2 or Map 6 is in the project file.

**Comment 4:** *I am also still hoping to find in the completed environmental analysis a plan containing actions that will be taken and a timeframe for restoring the lost carbon sequestration and pollution reduction capacity currently provided by Allegheny National Forest and will be lost if this project is implemented.*

**Response:** A project level carbon assessment has been completed for the East Branch Tionesta Creek project and has been posted to the Allegheny National Forest website. In summary, the East Branch Tionesta Creek project affects a relatively small amount of forest land and carbon on the Allegheny National Forest and might temporarily contribute an extremely small quantity of greenhouse gas emissions relative to national and global emissions. Except for proposed road construction, the proposed action would not convert forest land to other non-forest uses, thus allowing any carbon initially emitted from the proposed action to have a temporary influence on atmospheric greenhouse gas concentrations, because carbon would be removed from the atmosphere over time as the forest regrows. Effects from proposed road construction would be offset over time by proposed road decommissioning. Furthermore, the proposed project would transfer carbon in the harvested wood to the product sector, where it may be stored for several decades and substitute for more emission intensive materials or fuels. This proposed action is consistent with internationally recognized climate change adaptation and mitigation practices.

Also, proposed regeneration harvests would not occur until there is adequate advanced regeneration (seedlings and saplings) present to ensure the growth of a new stand of trees; therefore, trees are always present on-site storing carbon and removing pollutants from the air.

The following design criteria also help to mitigate the effects of timber harvesting and temporary openings greater than 40 acres in size.

- In all harvest systems and forest types, retain a component of healthy trees of species, which are minor components of a stand, particularly mast producers (USDA-FS 2007, page 65).



- In timber harvest units, retain low-growing, flowering, and fruiting trees and shrubs unless their presence would preclude adequate regeneration of the desired tree species. ... Where necessary to remove low growing, flowering, fruiting trees or wild grape, ensure a component is retained within the stand and on the landscape (USDA-FS 2007, page 65).
- In intermediate cuttings and the first entry of a regeneration sequence (e.g. a shelterwood seed cut or transition cut) retain good quality seed trees of diverse species representative of the existing stand and desired in the next stand. Preserve seed sources of scarce species and strive for uniform spacing among residuals whenever possible (USDA-FS 2007, page 65).
- Retain hemlock and white pine in stands, particularly in winter ranges, where it provides habitat for species with viability concerns, or where it is a minor component on the landscape. Where desirable to regenerate a forested stand, and it is necessary to remove hemlock or white pine, ensure a component is retained within the stand (>15 feet of basal area/acre) and on the landscape (USDA-FS 2007, page 65).
- To provide thermal cover and habitat diversity, maintain a rhododendron, white pine and mountain laurel component in harvest units where they currently occur (USDA-FS 2007, page 65).
- To maintain soil nutrients, avoid whole tree harvesting and leave slash from harvest operations where felled. Slash may be used to reduce compaction by driving over the slash in the skid trails, but all slash should remain in the unit and should not be hauled to the landing (USDA-FS 2007, page 73).
- In areas of partial or final harvest, scattered treetops and branches (slash) should be left where felled throughout the stand. A minimum of one 12 inch or greater DBH log (minimum of 8 feet long) per acre should be left in final harvest units (USDA-FS 2007, page 80).
- In all timber harvest units, one-quarter acre within each 5 acres of harvest should be set aside as reserve areas. Layout of reserve areas should emphasize the following: vernal ponds, wet depressions, unique plant communities, rock complexes, den trees, snags, conifers, mast-producing species, and tree or shrub species that are a minor component of the stand (USDA-FS 2007, page 80).
- Where they occur, up to five den trees per acre greater than 20 inches DBH should be retained. Den trees exhibit at least one noticeable cavity. Trees with the largest cavity receive the highest retention priority (USDA-FS 2007, page 80).
- Staggering timber harvests within the small watersheds within the project area to ensure that no more than 25 percent of any of these small watersheds will be in the 0 to 5 year age class at any point during implementation of the project and that no more than 25 percent of the basal area within any of these watersheds will be removed in any five year period during implementation of the project;
- Applying mitigation measures that break up contiguous openings, such as stream and other resource buffers (USDA-FS 2007); and



- Other actions that reduce opening size due to operability or other resource concerns (USDA-FS 2007).

***Comment 5:** I have been given assurance it is required that the PA DEP Bureau of Water Quality be consulted before a final Decision Notice is issued for projects involving Commonwealth streams. I anticipated reading the content of that consultation for this project in the environmental assessment.*

**Response:** To help restore natural conditions to the watershed, we are proposing to add large wood to selected streams and floodplains within the project area. These activities are common on the Allegheny National Forest, with similar projects including East Branch Spring Creek, Mud Lick Run, Mead Run, and Salmon Creek.

Our proposed action was shared with a variety of agencies and organizations through the scoping process. We reached out to the Department of Environmental Protection, U.S. Environmental Protection Agency, Elk County Commissioners, Headwaters Resource Conservation & Development Council, and other interested governments, agencies, organizations, and individuals. The comments received, and how we considered them, are briefly discussed in this appendix of the environmental assessment.

Our work with other agencies, however, doesn't stop with the scoping process. We will consider feedback received on this environmental assessment before making a decision, release a draft decision for public review, and will continue to work with other agencies after a decision notice is signed.

There can be a lag time of several months or years between when a decision notice is signed and when implementation begins. As a result, our NEPA decisions to approve large wood activities are usually conditional in nature. We plan to follow a similar process for this project, which means that any decision to approve large wood activities will be contingent on additional coordination and consultation with other agencies. This is needed to apply for and obtain a GP-1 permit for fish habitat enhancement structures, which is required for implementation to occur.

As part of the permitting process, we will (among other things):

- Contact the Pennsylvania Fish and Boat Commission to obtain their concurrence before applying for a permit.
- Submit a Pennsylvania Natural Diversity Inventory Environmental Review and follow any conservation measures or avoidance measures identified.
- Develop and submit an erosion and sediment control plan for any earthmoving activity to the Elk or McKean County Conservation District.
- Complete a general permit registration form and submit it to the appropriate County Conservation District. (In some cases, permit registration forms may be submitted directly to the Permitting and Technical Services Section of the Department of Environmental Protection. For this project, however, permit registration forms will be submitted to the Elk or McKean County Conservation Districts. Both counties have delegation agreements in place with the Department of Environmental Protection, and the GP-1 permit instructions stipulate submission of forms directly to the County Conservation Districts).

Implementation will then only occur if:

- The County Conservation District acknowledges that the general permit registration form has been received and registered.
- The County Conservation District reviews our erosion and sediment control plan and determines that it is satisfactory.
- All pre-construction requirements have been satisfied.
- Advance notice is given to the Fish and Boat Commission and the County Conservation District before work begins.
- Written notification is provided to the municipalities and county before implementation.

Additional information regarding the permitting process may be found online at <http://www.depgreenport.state.pa.us/elibrary/GetFolder?FolderID=4062>.

**Comment 7:** ... “Currently, approximately 5 percent of the project area is in the zero to 20 age class.” (EBTVMP Scoping letter p.3)

*The implementation of the EBTVMPP will add an additional 15% of the National Forest Lands in the project area in the early structural stage. This would equate to 20% in early structure, well over double the desired percentage. I understand that the implementation of this project will take place over a twenty-year period and some of the current early structure forest will mature to intermediate. How many more projects in the next 20 years will add additional early structural habitat within the boundaries of the EBTVMPP?*

*With this being the fourth management project within or including the boundaries of the EBTVMPP, it is unfathomable that only 5% is in the 0-20 age class.*

**Response:** GIS data shows that currently there are 580 acres (or 3.7 percent) of young forest (0 to 20 age class within the East Branch Tionesta Creek project area. An additional 144 acres (or 0.9 percent) has been approved for regeneration harvests (shelterwood sequence) in other projects that have not occurred yet. At this time, there are no additional planned project proposals that would increase early structural habitat for the foreseeable future within the project area. In the event of a storm event or other stand altering event of combination of effects, additional proposals and analysis would consider effects on residual stand age and structural habitat.

**Comment 8:** *I have a map of the ANF Forest Age Class planning map. I believe this map predates the 2007 LRMP. Does such a map exist with the current state of the forest?*

**Response:** We don't have a specific replacement for that map, but there is forest age class data available on our website. The interactive forest hunting map has forest age class data available, and can be found online at

<https://usfs.maps.arcgis.com/apps/webappviewer/index.html?id=39173d817f1d45b0ba914815abba6dd0>.

There is additional information available in the GIS data we have online for vegetation. Here's a link to the geospatial data part of our website:  
<https://www.fs.usda.gov/main/alleggheny/landmanagement/gis>.

*Is there a map of the EBTVM project area showing forest age class?*

**Response:** A map showing current forest age class is in the project file. A copy was sent to the respondent with the link to the environmental assessment.

*Why is the year 2015 referenced in the scoping document for early structural forest? Is there no more recent data? Has the early structural forest percentage increased in the last four (five) years? The projects are flying off the press.*

**Response:** Recently, staff on the ANF updated and verified the database and re-calculated the early structural percentage as of January 2020. Currently the early structural condition is 3.1 percent (15,115 early structural acres/491,239 total forested acres). The decrease in the early structural percentage is most likely due to young stands getting older and growing out of the 0 to 20 age class. Also, the lag time between a shelterwood seed cut and the establishment of advance regeneration necessary to trigger an overstory removal varies by stand. In some cases, this can take a few years, while in others it can take a decade or more based on the effectiveness of reforestation activities. The amount of early structural habitat generated in this or any project – and the size of temporary openings that occur in generating that habitat – are maximum values. The actual number of acres, the timing of removals and size of temporary openings will almost certainly be less than the maximum as a result of any number of factors that may remove acres from consideration for harvest or cause delays in treatments. This can include variation of harvest conditions within a stand, discovery of sensitive or rare species of previously undetected resources or conditions that would defer or cease the proposed treatment, market conditions or saturated soils that cause an operator to delay harvest from one season to the next, as well as other factors. The decision to implement an overstory removal often comes after an investment of time and resources to establish advanced regeneration, requires a certain degree of confidence that the regeneration will result in a new and successful forest stand, and is specific to each stand based on how nature responds to our efforts.

**Comment 9:** *How is the percent of the forest in early structural habitat calculated?*

*Is the 3.8% based on the total ANF acres of 516,843 or 41,000 acres, or is the 3.8% based on the ANF land suitable for timber production of 379,055 acres for 30,000 acres in an early structural stage? How many acres of the ANF are in fact in early structural stage?*

**Response:** See response to comment 8.

**Comment 10:** *At the recent Inaugural State of the Forest meeting, The USFS reported “We have an objective of 10 to 12 percent forest-wide of young forest, **we’re starting to approach that.**” I have the errata page for page 19 of the LRMP which states that 8% is the desired amount of 0-20 age class. Is there an errata to the errata? This would certainly hide from forest users the 50% increase in the desired brush in the forest. This also conflicts with the EBTVM scoping letter claim that only 3.8% of the forest is in this age class.*

**Response:** The objective for Management Area 3.0 is for 10 to 12 percent of the management area to be young forest (USDA-FS 2007, errata) with a forest-wide objective of 8 percent across all management areas (USDA-FS 2007, page 19). Typically, young forest on the Allegheny National Forest is established through a series of activities, most often a shelterwood seed harvest followed by reforestation activities to promote seedling development and then a shelterwood removal harvest. The final regeneration harvest occurs once tree seedlings are established and occurs to release the tree seedlings to full sunlight conditions. This process can take from 3 to 15 years depending on seed source distribution, species composition, seed source health, interfering vegetation, site, and deer browsing impacts. The process can also include treatments after a young stand has been established, such as timber stand improvement to remove non-native invasive plants or competing undesirable vegetation.

Currently 4.3 percent (12,465 acres) of Management Area 3.0 is young forest. At the State of the Forest meeting, acres sold for various management activities to be implemented over the next several years were displayed, not acres harvested (when they result in young forest). What was being articulated is that acres sold were approaching projected treatment levels in the Forest Plan. As the treatments are implemented, they would result in young forest. However, this would depend on the length of time these treatments take, for seedlings to become established, and for final harvests to occur as described above.

While tree seedlings become established and young forest is created, stands are also growing out of the 0–20 year age class into the pole size class. Thus, there is a continuous need to establish an even flow of new young forest areas, as previously established young forest areas mature.

**Comment 11:** *Stands 824022, 824057, 821015, and 821025 (the latter two misidentified on Map 2) all appear to bisect the National Scenic North Country Trail.*

*Has the Allegheny National Forest Chapter of the North Country Trail Association been consulted on the mitigation measures to be taken to protect the integrity of the trail?*

**Response:** We have consulted with the Allegheny National Forest Chapter of the North Country Trail Association. See response to their comments below. Please note that stand 821025 has been dropped from the proposal due to resource concerns and that compartment 821 was labeled as compartment 832 on scoping map 2 by mistake.

**Comment 12:** *While five miles of the North County National Scenic Trail wends its way through the project area, there is nary a mention of it in the EBTVMPP scoping document. I'm sure if it were a motorized trail it would be a different story. Motorized off-road recreation just seems to be such a perfect fit for enjoying the forest.*

**Response:** Comment noted. No changes are being proposed for the North Country National Scenic Trail or any other trail system within the project area. A recreation analysis has been completed for this project and is summarized in the environmental assessment. Design features specific to the North Country National Scenic Trail are included in appendix B.

**Comment 13:** *Although several stands in the logging plan are located in close proximity to the NCNST (for example: 821022, 821023, 821054, 824022, 824037, 824043, 824046, 824056, 824057, 824060, 824061, 824063) or cross the NCNST (for example: 821015, 821025), there is no mention of how the logging might affect the trail or any mitigations put in place to protect the integrity and viewscape of the trail. From the information given, we are not able to see the distance between the NCNST and the stands to be logged.*

**Response:** A recreation and scenery analysis has been completed for this project and is summarized in the environmental assessment. Please note that stand 821025 has been dropped from the proposal due to resource concerns. Design features specific to the North Country National Scenic Trail are included in appendix B.

**Comment 14:** *The only spot the NCNST is mentioned in the Scoping Proposal is on page 27 under “Transportation”. We are not aware of what 0.3 mile segment it is referring to how the NCNST would be affected by this. Also the name of the trail should be corrected from “North Country Hiking Trail” to its correct name “North Country National Scenic Trail”.*

**Response:** No changes are being proposed for the North Country National Scenic Trail or any other trail system within the project area. The reference to the North Country National Scenic Trail on page 27 of the scoping proposal notes the portion (0.3 miles) of the North Country National Scenic Trail that is located on or along roads, in this case, forest roads 133 and 149. The name of the North Country National Scenic Trail is corrected in this document and will be used in future documents for this project. Thank you for pointing this out.

**Comment 15:** *The “How does the project implement the Forest Plan?” section, pages 30-31, does not address recreation goals or any type of trails in any way. Logging will affect recreation, so the goals of both logging and recreation should be considered. Standards & Guidelines specifically for the NCNST can be found on page 61 of the ANF Land and Resource Management Plan, March 2007.*

**Response:** The Forest Plan goal for the North Country National Scenic Trail is located on page 13 and states “Manage the North Country National Scenic Trail to ensure a consistent appearance, a high standard of quality and a basic level of safety along a diverse range of setting and vegetative conditions.” By following Forest Plan standards and guidelines and project design features (appendix B of this environmental assessment) effects to the North Country National Scenic Trail would be minimized.

**Comment 16:** *Important mitigations that should be put into place to protect this National Scenic Trail are:*

- *Place a minimum 100’ no-cut buffer on either side of the NCTST center line with the ability to extend that to 150 to 200 feet based on conditions. This corridor will help minimize the impact of logging activities that have caused increased maintenance and wind throw issues and damaged the viewscape.*
- *No marking paint should be seen from the NCNST. Blue marking paint is especially confusing to hikers following blue NCNST blazes. Its use should be minimized.*
- *Minimize trail crossing. Repair the trail to prior condition upon completion of crossing. The NCNST will not be used for hauling or skidding.*

- *No activity on weekends/holidays when more hikers will be using the NCNST.*
- *Inform the Allegheny National Forest (ANF) Chapter of the NCTA of contracted timber sales in the vicinity of the NCNST and put up signage informing hikers of logging activities.*

**Response:** The responsible official has decided to incorporate these mitigations as design features for the East Branch Tionesta Creek project. See appendix B of this environmental assessment.

**Comment 17:** ... remove all silvicultural treatments, all transportation management projects (with the exception of any road decommissioning -- those should go forward), and all non-native species treatments from the proposed East Branch Tionesta Creek Project west of Forest Road 133 and south of Forest Road 258. Such activities are inconsistent with the management of federal public land as wilderness, so therefore they are contrary to what Friends of Allegheny Wilderness has proposed as the Tionesta Wilderness Area in the Citizens' Wilderness Proposal for Pennsylvania's Allegheny National Forest.

**Response:** The proposed activities east of forest road 133 and south of forest road 258 are not located in designated wilderness areas (Management Area 5.1 in the Forest Plan) or wilderness study areas (Management Area 5.2 in the Forest Plan). They are located in Management Area 2.1–Uneven-aged management, Management Area 2.2–Late Structural Linkages, and Management Area 3.0–Even-aged Management. Proposed activities are suitable for these three management areas. This issue has already been decided by the Forest Plan.

## **LITERATURE CITED**

U.S. Department of Agriculture, Forest Service. 2007. Allegheny National Forest Land and Resource Management Plan and Record of Decision. Warren, PA.